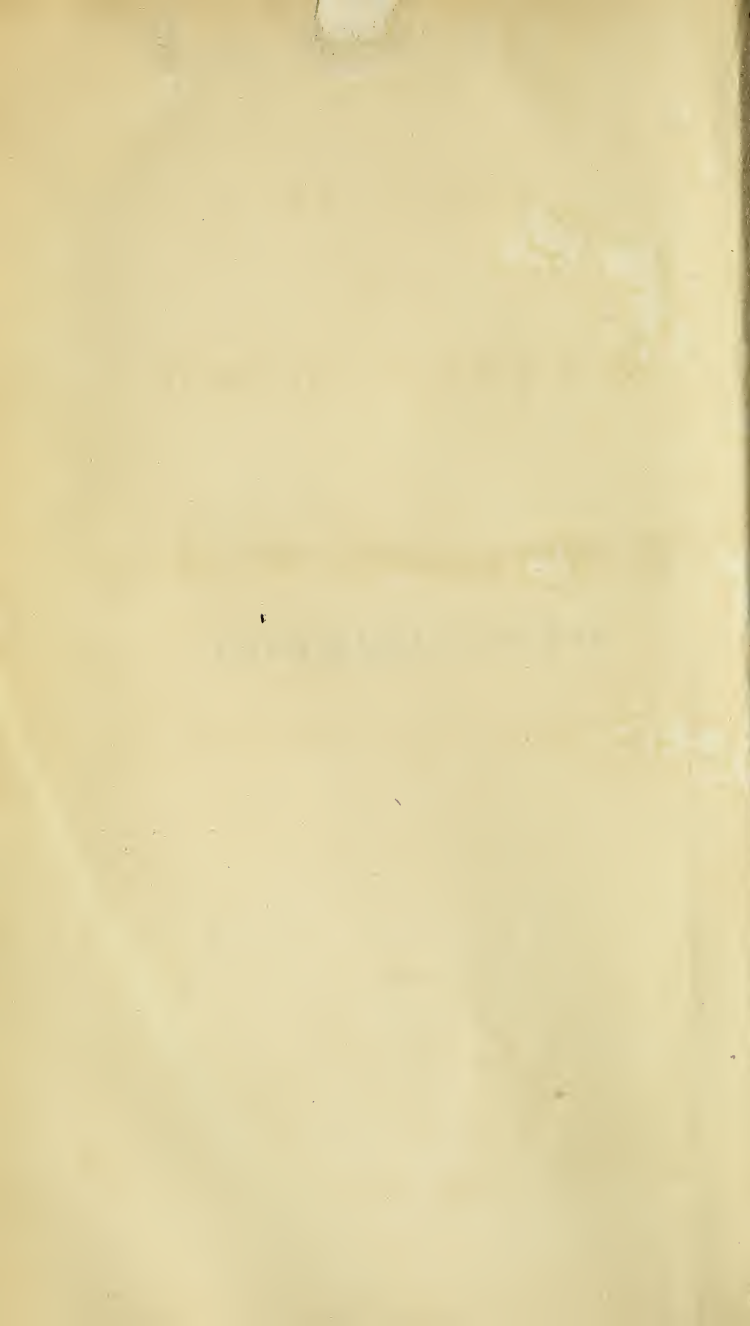


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ORNITHOLOGY.



A

MANUAL

OF THE

ORNITHOLOGY

OF THE

UNITED STATES AND OF CANADA.

BY

THOMAS NUTTALL, A. M., F. L. S.

THE LAND BIRDS/3/368

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P R E F A C E.

AFTER so many excellent works have appeared on the Birds of the United States, it may almost appear presumptuous, at present, to attempt any addition to the list. A compendious and scientific treatise on the subject, at a price so reasonable as to permit it to find a place in the hands of general readers, seemed, however, still a desideratum ; and to supply this defect has been a principal object with the author of the present publication.

Besides exploring the ever fruitful field of nature in this delightful and fascinating kingdom, every available aid has been employed ; and, as might be expected, invaluable assistance has been derived from the labors of the immortal Wilson and of the justly celebrated Audubon. In the scientific part of the Manual, constant recurrence has also been had to the useful labors of C. L. Bonaparte, Prince of Musignano, and also to the well known treatise on European Ornithology by the accurate and elaborate Temminck, as well as to other authors of established reputation ; such as Brisson, Buffon, Latham, White, and Pennant.

To a number of obliging friends who have assisted him in obtaining specimens, or relations concerning the habits of our birds, the author offers his grateful acknowledgments ; particularly to Charles Pickering, M. D., to whom he is indebted for much valuable in-

formation on their geographical limits; to William Cooper, Esq., well known by his devotion to the study of ornithology; to Mr. Oakes, of Ipswich; to T. W. Harris, M. D., Librarian of Harvard University; to S. C. Greene, Esq. of Boston; and to Mr. Nathaniel J. Wyeth, Mr. James Brown, Mr. John Bethune, and Mr. Russell, of Cambridge.

The wood engravings, not sufficiently numerous, in consequence of their cost, have been executed by Mr. Bowen of Boston, and Mr. Hall, in the employ of Messrs. Carter & Andrews, of Lancaster.

A larger work on the Ornithology of the United States, with numerous engravings, and more extensive details of Natural History, will also soon be issued, so as to complete and embody, with every necessary illustration, the History of the birds of the United States, and of British America.

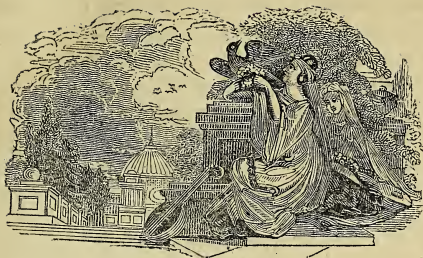
As a few technical and scientific words have unavoidably been introduced into this work, we subjoin the following glossary :

- Mandibles.* The two parts which compose the bill.
- Cere.* A colored membrane investing the base of the upper mandible : as in Hawks, and a few other birds.
- Capistrum.* The sides of the head immediately behind the bill.
- Front.* The forehead, or fore part of the head.
- Lores.* A naked line leading from the bill to the eyes.
- Orbit.* A circle round the eye-brows.
- Interscapular.* The region between the wings, and the back.
- Primaries.* The external quills of the wing, often about 10 in number.
- Secondaries.* The next quills to the primaries, being usually about 10 to 18.
- Tertials.* The innermost quills, being from 3 to 5 in number.
- Alula.* The spurious or bastard winglet, of 4 or 5 small feathers, situated at the outer edge of the shoulder of the closed wing.
- Scapulars.* Long feathers arising from near the junction of the wing with the body above, and lying over each other.
- Alar.* Of the wings: a term employed in speaking of the stretch of the wing.
- Tarsus.* The leg bone, joining the commencement of the foot.

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INTRODUCTION.

OF all the classes of animals by which we are surrounded in the ample field of nature, there are none more remarkable in their appearance and habits than the feathered inhabitants of the air. They play around us like fairy spirits, elude approach in an element which defies our pursuit, soar out of sight in the yielding sky, journey over our heads in marshalled ranks, dart like meteors in the sunshine of summer, or seeking the solitary recesses of the forest and the waters, they glide before us like beings of fancy. They diversify the still landscape with the most lively motion and beautiful association; they come and go with the change of the season, and as their actions are directed by an uncontrollable instinct of provident nature, they may be considered as concomitant with the beauty of the surrounding scene. With what grateful sensations do we involuntarily hail the arrival of these faithful messengers of spring and summer, after the lapse of the dreary winter, which compelled them to forsake us for more favored climes. Their songs, now heard from the leafy groves and shadowy forests, inspire delight, or recollections of the pleasing past, in every breast. How volatile, how playfully capricious, how musical and happy, are these roving sylphs of nature, to whom the air, the earth, and the waters are almost alike habitable. Their lives are spent in boundless action; and nature, with an omniscient benevolence, has assisted and formed them for this wonderful display of perpetual life and vigor, in an element almost their own.

If we draw a comparison between these inhabitants of the air and the earth, we shall perceive that, instead of the large head, formidable jaws armed with teeth, the capacious chest, wide shoulders, and muscular legs of the quadrupeds; they have bills, or pointed jaws destitute of teeth; a long and pliant neck, gently swelling shoulders, immovable vertebræ; the fore-arm attenuated to a point, and clothed with feathers, forming the expansive wing, and thus fitted for a different species of motion; likewise the wide-extended tail, to assist the general provision for buoyancy throughout the whole anatomical frame. For the same general purpose of lightness, exists the contrast of slender bony legs and feet. So that, in short, we perceive in the whole conformation of this interesting tribe, a structure wisely and curiously adapted for their destined motion through the air. Lightness and buoyancy appear in every part of the structure of birds; to this end nothing contributes more than the soft and delicate plumage with which they are so warmly clothed; and though the wings, or great organs of aerial motion by which they swim, as it were, in the atmosphere, are formed of such light materials, yet the force with which they strike the air is so great as to impel their bodies with a rapidity unknown to the swiftest quadruped. The same grand intention of forming a class of animals to move in the ambient desert they occupy above the earth, is likewise visible in their internal structure. Their bones are light and thin, and all the muscles diminutive, but those appropriated for moving the wings. The lungs are placed near to the back-bone and ribs; and the air is not, as in other animals, merely confined to the pulmonary organs, but passes through, and is then conveyed into a number of membranous cells on either side the external region of the heart, communicating with others situated beneath the chest. In some birds these cells are continued down the wings, extending even to the pinions, bones of the thighs, and other parts of the body, which can be distended with air at the pleasure or necessity of the animal. This diffusion of air is not only intended to assist in lightening and elevating the body, but also appears necessary to prevent the stoppage or interruption of respiration, which would otherwise follow the rapidity of their motion through the resisting atmosphere; and thus the Ostrich, though deprived of the power of flight, runs almost with the swiftness of the wind, and requires, as he possesses, the usual resources of air conferred on other birds. Were it possible for man to move with the rapidity of a Swallow, the resistance of the air, without some such peculiar provision as in birds, would

quickly bring on suffocation. The superior vital heat of this class of beings is likewise probably due to this greater aëration of the vital fluid.

Birds, as well as quadrupeds, may be generally distinguished into two great classes from the food on which they are destined to subsist; and may, consequently, be termed carnivorous and granivorous. Some also hold a middle nature, or partake of both. The granivorous and herbivorous birds are provided with larger and longer intestines than those of the carnivorous kinds. Their food, consisting chiefly of grain of various sorts, is conveyed whole into the craw or first stomach, where it is softened and acted upon by a peculiar glandular secretion thrown out upon its surface; it is then again conveyed into a second preparatory digestive organ; and finally transmitted into the true stomach or gizzard, formed of two strong muscles, connected externally with a tendinous substance, and lined internally with a thick membrane of great power and strength; and in this place the unmasticated food is at length completely trituated, and prepared for the operation of the gastric juice. The extraordinary powers of the gizzard in comminuting food, to prepare it for digestion, almost exceeds the bounds of credibility. Turkeys and common fowls have been made to swallow sharp angular fragments of glass, metallic tubes, and balls armed with needles, and even lancets, which were found broken and compressed without any apparent pain to the subjects, or wounds in the stomach. The gravel pebbles swallowed by this class of birds with so much avidity, thus appear useful in bruising and comminuting the grain they feed on, and preparing it for the solvent action of the digestive organs.

Those birds which live chiefly on grain and vegetable substances, partake in a degree of the nature and disposition of herbivorous quadrupeds. In both, the food and the provision for its digestion, are very similar. Alike distinguished for sedentary habits and gentleness of manners, their lives are harmlessly and usefully passed in collecting seeds and fruits, and ridding the earth of noxious and destructive insects; they live wholly on the defensive with all the feathered race, and are content to rear and defend their offspring from the attacks of their enemies. It is from this tractable and gentle race, as well as from the amphibious or aquatic tribes, that man has long succeeded in obtaining useful and domestic species, which, from their prolificacy and hardihood, afford a vast supply of wholesome and nutritious food. Of these, the Hen, originally from

India; the Goose, Duck, and Pigeon of Europe; the Turkey of America; and the Pintado or Guinea-Hen of Africa, are the principal: to which may also be added, as less useful, or more recently naturalized, the Peacock of India; the Pheasant of the same country; the Chinese and Canada Goose; the Muscovy Duck; and the European Swan.

Carnivorous birds, by many striking traits, evince the destiny for which they have been created; they are provided with wings of great length, supported by powerful muscles, which enable them to fly with energy, and soar with ease at the loftiest elevations in which they are visible. They are armed with strong and hooked bills; and with the sharp and formidable claws of the tiger; they are also further distinguished by their large heads, short necks, strong muscular thighs in aid of their retractile talons, and a sight so piercing, as to enable them, while soaring at the greatest height, to perceive their prey, upon which they sometimes descend, like an arrow, with undeviating aim. In these birds the stomach is smaller than in the granivorous kinds, and their intestines are shorter. Like beasts of prey, they are of a fierce and unsociable nature; and so far from herding together like the inoffensive tribes, they drive even their offspring from the eyry, and seek habitually the shelter of desert rocks, neglected ruins, or the solitude of the darkest forest, from whence they utter loud, terrific, or piercing cries, in accordance with the gloomy rage and inquietude of their insatiable desires.

Besides these grand divisions of the winged nations, there are others, which, in their habits and manners, might be compared to the amphibious animals, as they live chiefly on the water, and feed on its productions. To enable them to swim and dive in quest of their aquatic food, their toes are connected by broad membranes or webs, with which, like oars, they strike the water, and are impelled with force. In this way even the seas, lakes, and rivers, abounding with fish, insects, and seeds, swarm with birds of various kinds, which all obtain an abundant supply. There are other aquatic birds, frequenting marshes and the margins of lakes, rivers, and the sea, which seem to partake of an intermediate nature between the land and water tribes. Some of these feed on fishes and reptiles; others, with long and sensible bills and extended necks, seek their food in wet and muddy marshes. These birds are not made for swimming; but, familiar with water, they wade, and many follow the edge of the retiring waves of the sea, gleaning their insect prey at the recession of the tides: for this kind of life nature has provided

them with long legs, bare of feathers even above the knees; their toes, unconnected by webs, are only partially furnished with membranous appendages, just sufficient to support them on the soft and boggy grounds they frequent. To this tribe belong the Cranes, Snipes, Sandpipers, Woodcocks, and many others.

In comparing the senses of animals in connexion with their instinct, we find that of *sight* to be more extended, more acute, and more distinct in birds, in general, than in quadrupeds. I say, in general, for there are some birds, such as the Owls, whose vision is less clear than that of quadrupeds; but this rather results from the extreme sensibility of the eye; which, though dazzled with the glare of full day, nicely distinguishes even small objects, by the aid of twilight. In all birds the organ of sight is furnished with two membranes, an external and internal, additional to those which occur in the human subject. The former (*membrana nictitans*) or external membrane, is situated in the larger angle of the eye; and is, in fact, a second and more transparent eye-lid, whose motions are directed at pleasure, and its use, besides occasionally cleaning and polishing the cornea, is to temper the excess of light, and adjust the quantity admitted to the extreme delicacy of the organ. The other membrane, situated at the bottom of the eye, appears to be an expansion of the optic nerve, which receiving more immediately the impressions of the light, must be much more sensible than in other animals; and consequently the sight is in birds far more perfect, and embraces a wider range. Facts and observations bear out this conclusion, for a Sparrow-Hawk, while hovering in the air, perceives a lark or other small bird sitting on the ground, at twenty times the distance that such an object would be visible to a man or dog. A Kite, which soars beyond the reach of human vision, yet distinguishes a lizard, field-mouse, or bird, and from this lofty station selects the tiny object of his prey, descending upon it in nearly a perpendicular line. But it may also be added, that this prodigious extent of vision is likewise accompanied with equal accuracy and clearness; for the eye can dilate or contract, be shaded or exposed, depressed or made protuberant, so as readily to assume the precise form suited to the degree of light and the distance of the object; the organ thus answering, as it were, the purpose of a self-adjusting telescope, with a shade for examining the most luminous and dazzling objects; and hence the Eagle is often seen to ascend to the higher regions of the atmosphere, gazing on the unclouded sun, as on an ordinary and familiar object.

The rapid motions executed by birds, have also a reference to the perfection of their vision; for, if nature, while she endowed them with great agility and vast muscular strength, had left them as short-sighted as ourselves, their latent powers would have availed them nothing; and the dangers of a perpetually impeded progress would have repressed or extinguished their ardor. We may then, in general, consider the celerity with which an animal moves, as a just indication of the perfection of its vision. A bird, therefore, shooting swiftly through the air, must undoubtedly see better than one which slowly describes a waving tract. The weak-sighted Bat, flying carefully through bars of willow, even when the eyes were extinguished, may seem to suggest an exception to this rule of relative velocity and vision; but in this case, as in that of some blind individuals of the human species, the exquisite auditory apparatus seems capable of supplying the defect of sight. Nor are the flickerings of the Bat, constantly performed in a narrow circuit, at all to be compared to the distant and lofty soarings of the Eagle, or the wide wanderings of the smaller birds, who often annually pass and repass from the arctic circle to the equator.

The idea of motion, and all the other ideas connected with it, such as those of relative volocities, extent of country, the proportional height of eminences, and of the various inequalities that prevail on the surface, are therefore more precise in birds, and occupy a larger share of their conceptions, than in the grovelling quadrupeds. Nature would seem to have pointed out this superiority of vision, by the more conspicuous and elaborate structure of its organ; for in birds the eye is larger in proportion to the bulk of the head than in quadrupeds; it is also more delicate and finely fashioned, and the impressions it receives must consequently excite more vivid ideas.

Another cause of difference in the instincts of birds and quadrupeds, is the nature of the element in which they live. Birds know better than man, the degrees of resistance in the air, its temperature at different heights, its relative density, and many other particulars, probably, of which we can form no adequate conception. They foresee more than we, and indicate better than our weather-glasses, the changes which happen in that voluble fluid; for often have they contended with the violence of the wind, and still oftener have they borrowed the advantage of its aid. The Eagle, soaring above the clouds, can at will escape the scene of the storm, and in the lofty region of calm, far within the aërial boundary of

eternal frost,* enjoy a serene sky and a bright sun, while the terrestrial animals remain involved in darkness, and exposed to all the fury of the tempest. In twenty-four hours it can change its climate, and sailing over different countries, it will form a picture exceeding the powers of the pencil or the imagination. The quadruped knows only the spot where it feeds, its valley, mountain, or plain; it has no conception of the expanse of surface, or of remote distances, and generally no desire to push forward its excursions beyond its immediate wants. Hence remote journeys and extensive migrations are as rare among quadrupeds, as they are frequent among birds. It is this desire, founded on their acquaintance with foreign countries, on the consciousness of their expeditious course, and on their foresight of the changes that will happen in the atmosphere, and the revolutions of seasons, that prompts them to retire together at the powerful suggestions of an unerring instinct. When their food begins to fail, or the cold and heat to incommode them, their innate feelings and latent powers urge them to seek the necessary remedy for the evils that threaten their being. The inquietude of the old is communicated to the young; and collecting in troops, by common consent, influenced by the same general wants, impressed with the approaching changes in the circumstances of their existence, they give way to the strong reveries of instinct, and wing their way over land and sea to some distant and better country.

Comparing animals with each other, we soon perceive that *smell*, in general, is much more acute among the quadrupeds than among the birds. Even the pretended scent of the Vulture is imaginary, as he does not perceive the tainted carrion, on which he feeds, through a wicker basket, though its odor is as potent as in the open air. This choice also of decaying flesh, is probably regulated by his necessities, and the deficiency of his muscular powers to attack a living, or even tear in pieces a recent prey. The structure of the olfactory organ, in birds, is obviously inferior to that of quadrupeds; the external nostrils are wanting, and those odors which might excite sensation have access only to the duct leading from the palate: and even in those, where the organ is disclosed, the nerves, which take their origin from it, are far from being so numerous, so large, or so expanded as in the quadrupeds. We may, therefore, regard *touch* in man, *smell* in the quadruped, and *sight* in birds, as

* The mean heights of eternal frost, under the equator, and at the latitude of 30° and 60°, are respectively 15,207; 11,484, and 3,818 feet.

respectively the three most perfect senses, which exercise a general influence on the character.

After sight, the most perfect of the senses in birds appears to be *hearing*, which is even superior to that of the quadrupeds, and scarcely exceeded in the human species. We perceive with what facility they retain and repeat tones, successions of notes, and even discourse; we delight to listen to their unwearied songs, to the incessant warbling of their tuneful affection. Their ear and throat are more ductile and powerful than in other animals, and their voice more capacious and generally agreeable. A Crow, which is scarcely more than the thousandth part the size of an ox, may be heard as far, or farther; the Nightingale can fill a wider space with its music than the human voice. This prodigious extent and power of sound depend entirely on the structure of their organs; but the support and continuance of their song result solely from their internal emotions.

The windpipe is wider and stronger in birds than in any other class of animals, and usually terminates below in a large cavity that augments the sound. The lungs too have greater extent, and communicate with internal cavities, which are capable of being expanded with air, and, besides lightening the body, give additional force to the voice. Indeed the formation of the thorax, the lungs, and all the organs connected with these, seem expressly calculated to give force and duration to their utterance.

Another circumstance, showing the great power of voice in birds, is the distance at which they are audible in the higher regions of the atmosphere. An Eagle may rise at least to the height of 17,000 feet, for it is there just visible. Flocks of Storks and Geese may mount still higher, since, notwithstanding the space they occupy, they soar almost out of sight; their cry will therefore be heard from an altitude of more than three miles, and is at least four times as powerful as the voice of men and quadrupeds.

Sweetness of voice and melody of song are qualities, which in birds are partly natural and partly acquired. The facility with which they catch and repeat sounds, enables them not only to borrow from each other, but often even to copy the more difficult inflections and tones of the human voice, as well as of musical instruments. It is remarkable, that, in the tropical regions, while the birds are arrayed in the most glowing colors, their voices are hoarse, grating, singular, or terrific. Our sylvan Orpheus, the Mocking-bird, the Brown Thrush, the Warbling Flycatcher; as well as the Linnet,

the Thrush, the Blackbird, and the Nightingale of Europe, preëminent for song, are all of the plainest colors and weakest tints.

The natural tones of birds, setting aside those derived from education, express the various modifications of their wants and passions; they change even according to the different times and circumstances. The females are much more silent than the males; they have cries of pain or fear, murmurs of inquietude or solicitude, especially for their young; but song is generally withheld from them. The song of the male is inspired by tender emotion, he chants his affectionate lay with a sonorous voice, and the female replies in feeble accents. The Nightingale, when he first arrives in the spring, without his mate, is silent; he begins his lay in low, faltering, and unfrequent airs; and it is not until his consort sits on her eggs, that his enchanting melody is complete; he then tries to relieve and amuse her tedious hours of incubation, and warbles more pathetically and variably his amorous and soothing tale. In a state of nature this propensity for song only continues through the breeding season, for after that period it either entirely ceases, becomes enfeebled, or loses its sweetness.

Conjugal fidelity and parental affection are among the most conspicuous traits of the feathered tribes. The pair unite their labors in preparing for the accommodation of their expected progeny; and during the time of incubation, their participation of the same cares and solitudes continually augments their mutual attachment. When the young appear, a new source of care and pleasure opens to them, still strengthening the ties of affection; and the tender charge of rearing and defending their infant brood requires the joint attention of both parents. The warmth of first affection is thus succeeded by calm and steady attachment, which by degrees extends, without suffering any diminution, to the rising branches of the family.

This conjugal union, in the rapacious tribe of birds, the Eagles and Hawks, as well as with the Ravens and Crows, continues commonly through life. Among many other kinds it is also of long endurance, as we may perceive in our common Pewee and the Blue-bird, who year after year continue to frequent and build in the same cave, box, or hole in the decayed orchard tree. But, in general, this association of the sexes expires with the season, after it has completed the intentions of reproduction, in the preservation and rearing of the offspring. The appearance even of sexual distinction, often vanishes in the autumn, when both the parents and their young are

then seen in the same humble and oblivious dress. When they arrive again amongst us in the spring, the males in flocks, often by themselves, are clad anew in their nuptial livery; and with vigorous songs, after the cheerless silence in which they have passed the winter, they now seek out their mates, and warmly contest the right to their exclusive favor.

With regard to food, birds have a more ample latitude than quadrupeds; flesh, fish, amphibia, reptiles; insects, fruits, grain, seeds, roots, herbs; in a word, whatever lives or vegetates. Nor are they very select in their choice, but often catch indifferently at what they can most easily obtain. Their sense of taste appears indeed much less acute than in quadrupeds; for, if we except such as are carnivorous, their tongue and palate are, in general, hard, and almost cartilaginous. Sight and scent can alone direct them, though they possess the latter in an inferior degree. The greater number swallow without tasting; and mastication, which constitutes the chief pleasure in eating, is entirely wanting to them. As their horny jaws are unprovided with teeth, the food undergoes no preparation in the mouth, but is swallowed in unbruised and untasted morsels. Yet there is reason to believe, that the first action of the stomach, or its preparatory *ventriculus*, affords in some degree the ruminating gratification of taste, as after swallowing food, in some insectivorous and carnivorous birds, the motion of the mandibles, exactly like that of ordinary tasting, can hardly be conceived to exist without conveying some degree of gratifying sensation.

The clothing of birds varies with the habits and climates they inhabit. The aquatic tribes, and those which live in northern regions, are provided with an abundance of plumage and fine down; from which circumstance often we may form a correct judgment of their natal regions. In all climates, aquatic birds are almost equally feathered, and are provided with posterior glands containing an oily substance for anointing their feathers, which, aided by their thickness, prevents the admission of moisture to their bodies. These glands are less conspicuous in land-birds, unless, like the fishing Eagles, their habits be to plunge in the water in pursuit of their prey.

The general structure of feathers seems purposely adapted both for warmth of clothing and security of flight. In the wings of all birds which fly, the webs composing the vanes, or plummy sides of the feather, mutually interlock by means of regular rows of slender hair-like teeth, so that the feather, except at and towards its base, serves as a complete and close screen from the weather on the one

hand, and as an impermeable oar on the other, when situated in the wing, and required to catch and retain the impulse of the air. In the birds which do not fly, and inhabit warm climates, the feathers are few and thin, and their lateral webs are usually separate, as in the Ostrich, Cassowary, Emu, and extinct Dodo. In some cases feathers seem to pass into the hairs, which ordinarily clothe the quadrupeds, as in the Cassowary, and others; and the base of the bill in many birds is usually surrounded with these capillary plumes.

The greater number of birds cast their feathers annually, and appear to suffer much more from it than the quadrupeds do from a similar change. The best fed fowl ceases at this time to lay. The season of moulting is generally the end of summer or autumn, and their feathers are not completely restored till the spring. The male sometimes undergoes, as we have already remarked, an additional moult towards the close of summer; and among many of the waders and web-footed tribes, as Sandpipers, Plovers, and Gulls, both sexes experience a moult twice in the year, so that their summer and winter livery appears wholly different.

The stratagems and contrivances instinctively employed by birds for their support and protection, are peculiarly remarkable; in this way those which are weak are enabled to elude the pursuit of the strong and rapacious. Some are even screened from the attacks of their enemies by an arrangement of colors assimilated to the places which they most frequent for subsistence and repose: thus the Wryneck is scarcely to be distinguished from the tree on which it seeks its food; or the Snipe from the soft and springy ground which it frequents. The Great Plover finds its chief security in stony places, to which its colors are so nicely adapted, that the most exact observer may be deceived. The same resort is taken advantage of by the Night-Hawk, Partridge, Plover, and the American Quail, the young brood of which squat on the ground, instinctively conscious of being nearly invisible, from their close resemblance to the broken ground on which they lie, and trust to this natural concealment. The same kind of deceptive and protecting artifice is often employed by birds to conceal, or render the external appearance of their nests ambiguous. Thus the European Wren forms its nest externally of hay, if against a hay-rick; covered with lichens, if the tree chosen is so clad; or made of green moss, when the decayed trunk in which it is built, is thus covered; and then, wholly closing it above, leaves only a concealed entry in the side. Our Humming-bird, by external

patches of lichen, gives her nest the appearance of a moss-grown knot. A similar artifice is employed by our Yellow Breasted Flycatcher or Vireo, and others. The Golden-Crowned Thrush (*Sylvia aurocapilla*) makes a nest like an oven, erecting an arch over it, so perfectly resembling the tussuck in which it is concealed, that it is only discoverable by the emotion of the female when startled from its covert.

The Butcher-bird is said to draw around him his feathered victims by treacherously imitating their notes. The Kingfisher of Europe is believed to allure his prey by displaying the brilliancy of his colors, as he sits near some sequestered place on the margin of a rivulet; the fish, attracted by the splendor of his fluttering and expanded wings, are detained, while the wily fisher takes an unerring aim.* The Erne, and our Bald Eagle, gain a great part of their subsistence by watching the success of the Fish-Hawk, and robbing him of his finny prey as soon as it is caught. In the same way also the rapacious Burgomaster or Glaucus Gull (*Larus glaucus*) of the North, levies his tribute of food from all the smaller species of his race, who knowing his strength and ferocity, are seldom inclined to dispute his piratical claims. Several species of Cuckoo, and the Cow-Troopial of America, habitually deposit their eggs in the nests of other small birds, to whose deceived affection are committed the preservation and rearing of the parasitic and vagrant brood. The instinctive arts of birds are numerous; but treachery, like that which obtains in these parasitic species, is among the rarest expedients of nature in the feathered tribes; though not uncommon among some insect families.

The art displayed by birds in the construction of their temporary habitations, or nests, is also deserving of passing attention. Among the Gallinaceous tribe, including our land domestic species, as well as the aquatic and wading kinds, scarcely any attempt at a nest is made. The birds which swarm along the sea-coast, often deposit their eggs on the bare ground, sand, or slight depressions in shelving rocks; governed alone by grosser wants, their mutual attachment is feeble or nugatory, and neither art nor instinct prompts attention to the construction of a nest, the less necessary, indeed, as the young take to the water as soon as hatched, and early release themselves from parental dependence. The habits of the other aquatic birds

* The bright feathers of this bird enter often successfully, with others, into the composition of the most attractive artificial flies employed by anglers.

are not very dissimilar to these; yet it is singular to remark, that while our common geese and ducks, like domestic fowls, have no permanent selective attachment for their mates, the Canadian Wild-goose, the Eider-duck, and some others, are constantly and faithfully paired through the season; so that this neglect of comfortable accommodation for the young in the fabrication of an artificial nest, common to these with the rest of their tribe, has less connexion with the requisition of mutual aid, than with the hardy and precocious habits of these unmusical, coarse, and retiring birds. It is true, that some of them show considerable address, if little of art, in providing security for their brood; in this way some of the Razor-bills (including the Common Puffin) do not trust the exposure of their eggs, like the Gulls, who rather rely on the solitude of their retreat, than art in its defence; but with considerable labor some of the Alcas form a deep burrow for the security of their eggs and young.

Birds of the same genus differ much in their modes of nidification. Thus the Martin makes a nest within a rough-cast rampart of mud, and enters by a flat opening in the upper edge. The Cliff Swallow of Bonaparte, seen about Portland in Maine and Nova Scotia, as well as in the remote regions of the West, conceals its warm and feathered nest in a receptacle of agglutinated mud, resembling a narrow-necked purse or retort. Another species, in the Indian seas, forms a small receptacle for its young entirely of interlaced gelatinous fibres, provided by the mouth and stomach; these fabrics, stuck in clusters against the rocks, are collected by the Chinese, and boiled and eaten in soups as the rarest delicacy. The Bank-Martin, like the King-Fisher, burrows deep into the friable banks of rivers to secure a depository for its scantily feathered nest. The Chimney-Swallow, originally an inhabitant of hollow trees, builds in empty chimneys a mere nest of agglutinated twigs. The Woodpecker, Nuthatch, Titmouse, and our rural Blue-Bird, secure their young in hollow trees; and the first often gouge and dig through the solid wood with the success and industry of instinctive carpenters, and without the aid of any other chisel than their wedged bills.

But the most consummate ingenuity of ornithal architecture is displayed by the smaller and more social tribes of birds, who, in proportion to their natural enemies, foreseen by nature, are provided with the means of instinctive defence. In this labor both sexes generally unite, and are sometimes occupied a week or more in completing this temporary habitation for their young. We can only

glance at a few examples, chiefly domestic ; since to give any thing like a general view of this subject of the architecture employed by birds would far exceed the narrow limits we prescribe. And here we may remark, that, after migration, there is no more certain display of the reveries of instinct than what presides over this interesting and necessary labor of the species. And yet so nice are the observable gradations betwixt this innate propensity and the dawnings of reason, that it is not always easy to decide upon the characteristics of one as distinct from the other. Pure and undeviating instincts are perhaps wholly confined to the invertebral class of animals.

In respect to the habits of birds, we well know, that, like the quadrupeds, they possess, though in an inferior degree, the capacity for a certain measure of what may be termed education, or the power of adding to their stock of invariable habits, the additional circumstantial traits of an inferior degree of reason. Thus in those birds who have discovered, like the faithful dog, that humble companion of man, the advantages to be derived from associating round his premises, the regularity of their instinctive habits gives way, in a measure, to improvable conceptions. In this manner our Golden Robin (*Icterus baltimora*) or Fiery Hang-Bird, originally only a native of the wilderness and the forest, is now a constant summer resident in the vicinity of villages and dwellings. From the depending boughs of our towering Elms, like the Oriole of Europe, and the Cassican of tropical America, he weaves his pendulous and purse-like nest of the most tenacious and durable materials he can collect. These naturally consist of the Indian hemp, flax of the silk-weed (*Asclepias* species), and other tough and fibrous substances ; but with a ready ingenuity he discovers that real flax and hemp, as well as thread, cotton, yarn, and even hanks of silk, or small strings, and horse and cow hair, are excellent substitutes for his original domestic materials ; and in order to be convenient to these accidental resources, a matter of some importance in so tedious a labor, he has left the wild woods of his ancestry, and conscious of the security of his lofty and nearly inaccessible mansion, has taken up his welcome abode in the precincts of our habitations. The same motives of convenience and comfort have had their apparent influence on many more of our almost domestic feathered tribes ; the Blue-birds, Wrens, and Swallows, original inhabitants of the woods, are now no less familiar than our Pigeons. The Cat-bird often leaves his native solitary thickets for the convenience and

refuge of the garden, and watching, occasionally, the motions of the tenant, answers to his whistle with complaisant mimicry, or in petulant anger scolds at his intrusion. The Common Robin, who never varies his simple and coarse architecture; tormented by the parasitic Cuckoo, or the noisy Jay, who seek at times to rob him of his progeny; for protection, has been known fearlessly to build his nest within a few yards of the blacksmith's anvil, or on the stern timbers of an unfinished vessel, where the carpenters were still employed in their noisy labors. That sagacity obtains its influence over unvarying instinct in these and many other familiar birds, may readily be conceived, when we observe, that this venturous association with man vanishes with the occasion which required it; for no sooner have the Oriole and Robin reared their young, than their natural suspicion and shyness again return.

Deserts and solitudes are avoided by many kinds of birds. In an extensive country of unvarying surface, or possessing but little variety of natural productions, and particularly where streams and waters are scarce, few of the feathered tribes are to be found. The extensive prairies of the west, and the gloomy and almost interminable forests of the north, as well as the umbrageous, wild, and unpeopled banks of the Mississippi, and other of the larger rivers, no less than the vast pine barrens of the southern states, are nearly without birds, as permanent residents. In crossing the desolate piny glades of the south, with the exception of Creepers, Woodpeckers, Pine Warblers, and flocks of flitting Larks (*Sturnella*), scarcely any birds are to be seen till we approach the meanders of some stream, or the precincts of a plantation. The food of birds being extremely various, they consequently congregate only where sustenance is to be obtained; watery situations and a diversified vegetation is necessary for their support, and convenient for their residence; the fruits of the garden and orchard, the swarms of insects which follow the progress of agriculture, the grain which we cultivate, in short, every thing which contributes to our luxuries and wants, in the way of subsistence, no less than the recondite and tiny enemies, which lessen or attack these various resources, all conduce to the support of the feathered race, which consequently seek out and frequent our settlements, as humble and useful dependents.

The most ingenious and labored nest of all the North American birds, is that of the Orchard Oriole or Troopial. It is suspended or pensile, like that of the Baltimore, but, with the exception of hair,

constantly constructed of native materials, the principal of which is a kind of tough grass. The blades are formed into a sort of platted purse, but little inferior to a coarse straw bonnet; the artificial labor bestowed is so apparent, that Wilson humorously adds, that on his showing it to a matron of his acquaintance, betwixt joke and earnest, she asked, "if he thought it could not be taught to darn stockings." Every one has heard of the tailor bird of India (*Sylvia sutoria*);* this little architect, by way of saving labor, and gaining security for its tiny fabric, actually, as a seamstress, sows together the edges of two leaves of a tree, in which her nest, at the extremity of the branch, is then secured for the period of incubation. Among the *Sylvias* or Warblers, in which are included the Nightingale, and familiar Robin Redbreast, there is a species inhabiting Florida and the West Indies, the *Sylvia pensilis*, which forms its woven, covered nest to rock in the air at the end of two suspending strings, rather than trust it to the wily enemies by which it is surrounded; the entrance, for security, is also from below, and through a winding vestibule.

Our little cheerful, and almost domestic Wren (*Troglodytes fulvus*), which so often disputes with the Martin and the Bluebird the possession of the box, set up for their accommodation in the garden or near the house, in his native resort of a hollow tree, or the shed of some neglected out-house, begins his fabric by forming a barricade of crooked interlacing twigs, a kind of *chevaux-de-frise*, for the defence of his internal habitation, leaving merely a very small entrance at the upper edge; and so pertinacious is the instinct of this little petulant and courageous warbler, that, without perceiving the inutility of his industry, in the artificial mansion prepared for him, he still laboriously encumbers the interior of the box with the same mass of rude sticks. The industry of this little bird, and his affection for his mate, are somewhat remarkable, as he frequently completes his habitation without aid, and then searches out a female on whom to bestow it; but not being always successful, or the premises not satisfactory to his mistress, his labor remains without reward, and he continues to warble out his lay in solitude. The same gallant habit prevails also with our recluse Wren of the marshes. Wilson's Marsh Wren (*Troglodytes palustris*), instead of courting the advantages of a proximity to our dwellings, lives wholly among the reed fens, suspending his mud-plastered and circularly covered nest usually to the stalks of the plant he so much affects. Another marsh species inhabits the low and swampy meadows of our vicinity,

* For the curious nest of this bird, see the vignette on page 30.

(*Troglodytes *brevirostris*), and, with ready address, constructs its globular nest wholly of the intertwined sedge-grass of the tussuck on which it is built; these two species never leave their subaquatic retreats but for the purpose of distant migration, and avoid and deprecate in angry twitterings every sort of society but their own.

Among the most extraordinary habitations of birds, illustrative of their instinctive invention, may be mentioned that of the *Bengal Grosbeak*, whose pensile nest, suspended from the lofty boughs of the Indian fig-tree, is fabricated of grass, like cloth, in the form of a large bottle, with the entrance downwards; it consists also of two or three chambers, supposed to be occasionally illuminated by the fire-flies, which, however, only constitute a part of the food it probably conveys for the support of its young. But the most extraordinary instinct of this kind known, is exhibited by the Sociable or Republican Grosbeak (*Ploceus socius*, CUVIER) of the Cape of Good Hope. In one tree, according to Mr. Paterson, there could not be fewer than from 800 to 1000 of these nests, covered by one general roof, resembling that of a thatched house, and projecting over the entrance of the nest. Their common industry almost resembles that of bees. Beneath this roof there are many entrances, each of which forms, as it were, a regular street, with nests on either side, about two inches distant from each other. The material which they employ in this building, is a kind of fine grass, whose seed, also, at the same time, serves them for food.

That birds, besides their predilection for the resorts of men, are also capable of appreciating consequences to themselves and young, scarcely admits the shadow of a doubt: they are capable of communicating their fears, and nicely calculating the probability of danger, or the immunities of favor. We talk of the cunning of the Fox, and the watchfulness of the Weasel; but the Eagle, Hawk, Raven, Crow, Pye, and Blackbird, possess those traits of shrewdness and caution, which would seem to arise from reflection and prudence. They well know the powerful weapons and wiles of civilized man. Without being able to *smell powder*, a vulgar idea, the Crow and Blackbird at once suspect the character of the fatal gun; they will alight on the backs of cattle without any show of apprehension, and the Pye even hops upon them with insulting and garrulous playfulness; but he flies instantly from his human enemy, and seems, by his deprecating airs, aware of the proscription that affects his existence. A man on horseback, or in a carriage, is much less an object of suspicion to those wily birds, than when alone; and I have been fre-

quently both amused and surprised, in the Southern states, by the sagacity of the Common Blackbirds,* in starting from the ploughing field, with looks of alarm, at the sight of a white man, as distinct from and more dangerous than the black slave, whose furrow they closely and familiarly followed, for the insect-food it afforded them, without betraying any appearance of distrust. Need we any further proof of the capacity for change of disposition, than that which has so long operated upon our domestic poultry, "those victims," as Buffon slightly remarks, "which are multiplied without trouble, and sacrificed without regret." How different the habits of our Goose and Duck in their wild and tame condition. Instead of that excessive and timid cautiousness, so peculiar to their savage nature, they keep company with the domestic cattle, and hardly shuffle out of our path; nay, the Gander is a very ban-dog; noisy, gabbling, and vociferous, he gives notice of the stranger's approach, is often the terror of the meddling school-boy, in defence of his fostered brood; and it is reported of antiquity, that by their usual garrulity and watchfulness, they once saved the Roman capitol. Not only is the disposition of these birds changed by domestication, but even their strong instinct to migration, or wandering longings, are wholly annihilated. Instead of joining the airy phalanx which wing their way to distant regions, they grovel contented in the perpetual abundance attendant on their willing slavery. If instinct can thus be destroyed or merged in artificial circumstances, need we wonder that this protecting and innate intelligence is capable also of another change by improvement, adapted to new habits and unnatural restraints. Even without undergoing the slavery of domestication, many birds become fully sensible of immunities and protection; and in the same aquatic and rude family of birds, already mentioned, we may quote the tame habits of the Eider Ducks. In Iceland, and other countries, where they breed in such numbers, as to render their valuable down an object of commerce, they are forbidden to be killed under legal penalty, and, as if aware of this legislative security, they sit on their eggs undisturbed at the approach of man, and are entirely as familiar, during this season of breeding, as our tamed Ducks; nor are they apparently aware of the cheat habitually practised upon them of abstracting the down with which they line their nests, though it is usually repeated until they make the third attempt at incubation. If, however, the last nest, with its eggs and down, to the lining of which the male is now obliged to contribute,

* *Quiscalus versicolor*.

be taken away, they sagaciously leave the premises without return. The pious Storks, in Holland, protected by law for their usefulness, build their nests on the tops of houses and churches, often in the midst of cities, in boxes prepared for them, like those for our Martins; and, walking about the streets and gardens, without apprehension of danger, perform the useful office of domestic scavengers.

That birds, like our more sedentary and domestic quadrupeds, are capable of exhibiting attachment to those who feed and attend them, is undeniable. Deprived of other society, some of our more intelligent species, particularly the Thrushes, soon learn to seek out the company of their friends or protectors of the human species. The Brown Thrush and Mocking-bird become, in this way, extremely familiar, cheerful, and capriciously playful; the former, in particular, courts the attention of his master, follows his steps, complains when neglected, flies to him when suffered to be at large, and sings and reposes gratefully perched on his hand; in short, by all his actions he appears capable of real and affectionate attachment; and is jealous of every rival, particularly any other bird, which he persecutes from his presence with unceasing hatred. His petulant dislike to particular objects of less moment is also displayed by various tones and gestures, which soon become sufficiently intelligible to those who are near him, as well as his notes of gratulation and satisfaction. His language of fear and surprise could never be mistaken, and an imitation of his guttural low *tsherr tsherr*, on these occasions, answers as a premonitory warning when any danger awaits him, from the sly approach of cat or squirrel. As I have now descended, as I may say, to the actual biography of one of these birds, which I raised and kept uncaged for some time, I may also add, that besides a playful turn for mischief and interruption, in which he would sometimes snatch off the paper on which I was writing, he had a good degree of curiosity, and was much surprised one day by a large springing beetle or *Elater* (*E. ocellatus*), which I had caught and placed in a tumbler. On all such occasions, his looks of capricious surprise were very amusing; he cautiously approached the glass with fanning and closing wings, and in an under tone confessed his surprise at the address and jumping motions of the huge insect. At length he became bolder, and perceiving it had a relation to his ordinary prey of beetles, he, with some hesitation, ventured to snatch at the prisoner between temerity and playfulness. But when really alarmed or offended, he instantly flew to his loftiest perch, forbid all friendly approaches, and for some time kept up his low

and angry *tsherr*. My late friend, the venerable William Bartram, was also much amused by the intelligence displayed by this bird, and relates, that, one which he kept, being fond of hard bread crumbs, found, when they grated his throat, a very rational remedy in softening them, by soaking in his vessel of water; he likewise, by experience, discovered that the painful prick of the wasps on which he fed, could be obviated by extracting their stings. But it would be too tedious and minute to follow out these glimmerings of intelligence, which exist as well in birds as in our most sagacious quadrupeds. The remarkable talent of the Parrot for imitating the tones of the human voice has long been familiar. The most extraordinary and well authenticated account of the actions of one of the common Ash-colored species, is that of a bird which Colonel O'Kelly bought for a hundred guineas at Bristol. This individual not only repeated a great number of sentences, but *answered* many questions, and was able to whistle a variety of tunes. While thus engaged, it beat time with all the appearance of science; and possessed a judgment, or ear so accurate, that, if by chance it mistook a note, it would revert to the bar where the mistake was made, correct itself, and still beating regular time, go again through the whole with perfect exactness. So celebrated was this surprising bird, that an obituary notice of its death appeared in the General Evening Post for the 9th of October, 1802. In this account it is added, that, besides her great musical faculties, she could express her wants articulately, and give her orders in a manner approaching to rationality. She was, at the time of her decease, supposed to be more than thirty years of age. The Colonel was repeatedly offered five hundred guineas a year for the bird, by persons who wished to make a public exhibition of her; but out of tenderness to his favorite, he constantly refused the offer.

The story related by Goldsmith of a Parrot belonging to King Henry the Seventh, is very amusing, and possibly true. It was kept in a room in the palace of Westminster, overlooking the Thames, and had naturally enough learnt a store of boatmen's phrases; one day sporting somewhat incautiously, Poll fell into the river, but had rationality enough, it appears, to make a profitable use of the words she had learnt, and accordingly vociferated, "*A boat! twenty pounds for a boat!*" This welcome sound reaching the ears of a waterman, soon brought assistance to the parrot, who delivered it to the king, with a request to be paid the round sum so readily promised by the bird; but his majesty, dissatisfied with the exorbitant demand,

agreed, at any rate, to give him what the bird should now award; in answer to which reference, Poll shrewdly cried, "*Give the knave a groat!*"

The story given by Locke, in his "Essay on the Human Understanding," though approaching closely to rationality, and apparently improbable, may not be a greater effort than could have been accomplished by Colonel O'Kelly's bird. This Parrot had attracted the attention of Prince Maurice, then governor of Brazil, who had a curiosity to witness its powers. The bird was introduced into the room, where sat the prince in company with several Dutchmen. On viewing them, the Parrot exclaimed, in Portuguese, "What a company of white men are here!" Pointing to the prince, they asked, "Who is that man?" to which the Parrot replies, "Some general or other." The prince now asked, "From what place do you come?" The answer was, "From Marignan." "To whom do you belong?" it answered, "To a Portuguese." "What do you do there?" to which the Parrot replied, "I look after chickens!" The prince, now laughing, exclaimed, "*You* look after chickens!" To which Poll pertinently answered, "Yes, *I*;—and I know well enough how to do it;" clucking at the same instant in the manner of a calling brood-hen.

The docility of birds in catching and expressing sounds depends, of course, upon the perfection of their voice and hearing; assisted also by no inconsiderable power of memory. The imitative actions and passiveness of some small birds, such as Goldfinches, Linnets, and Canaries, are, however, quite as curious as their expression of sounds. A Sieur Roman exhibited in England some of these birds, one of which simulated death, and was held up by the tail or claw without showing any active signs of life. A second balanced itself on the head, with its claws in the air. A third imitated a milkmaid going to market, with pails on its shoulders. A fourth mimicked a Venetian girl looking out at a window. A fifth acted the soldier, and mounted guard as a centinel. The sixth was a cannonier, with a cap on its head, a firelock on its shoulder, and with a match in its claw discharged a small cannon. The same bird also acted as if wounded, was wheeled in a little barrow, as it were, to the hospital; after which it flew away before the company. The seventh turned a kind of windmill; and the last bird stood amidst a discharge of small fireworks, without showing any sign of fear.

A similar exhibition, in which twenty-four Canary birds were the actors, was also shown in London in 1820, by a Frenchman named

Dujon ; one of these suffered itself to be shot at, and, falling down, as if dead, was put into a little wheelbarrow, and conveyed away by one of its comrades.

The docility of the Canary and Goldfinch is thus, by dint of severe education, put in fair competition with that of the Dog ; and we cannot deny to the feathered creation a share of that kind of rational intelligence, exhibited by some of our sagacious quadrupeds, an incipient knowledge of cause and effect far removed from the unimprovable and unchangeable destinies of instinct. Nature, probably, delights less in producing such animated machines than we are apt to suppose ; and amidst the mutability of circumstances by which almost every animated being is surrounded, there seems to be a frequent demand for that relieving invention, denied to those animals which are solely governed by inflexible instinct.

The velocity with which birds are able to travel in their aërial element, has no parallel among terrestrial animals ; and this powerful capacity for progressive motion, is bestowed in aid of their peculiar wants and instinctive habits. The swiftest horse may perhaps proceed a mile in something less than two minutes, but such exertion is unnatural, and quickly fatal. An Eagle, whose stretch of wing exceeds seven feet, with ease and majesty, and without any extraordinary effort, rises out of sight in less than three minutes, and therefore must fly more than 3,500 yards in a minute, or at the rate of sixty miles in an hour. At this speed a bird would easily perform a journey of 600 miles in a day, since ten hours only would be required, which would allow frequent halts, and the whole of the night for repose. Swallows, and other migratory birds, might therefore pass from Northern Europe to the equator in seven or eight days. In fact, Adanson saw, on the coast of Senegal, swallows that had arrived there on the 9th of October, or eight or nine days after their departure from the colder continent. A Canary Falcon, sent to the Duke of Lerma, returned in sixteen hours from Andalusia to the island of Teneriffe, a distance of 750 miles. The Gulls of Barbadoes, according to Sir Hans Sloane, make excursions in flocks to the distance of more than 200 miles after their food, and then return the same day to their rocky roosts.

If we allow that any natural powers come in aid of the instinct to migration, so powerful and uniform in birds, besides their vast capacity for motion, it must be in the perfection and delicacy of their vision, of which we have such striking examples in the rapacious tribes. It is possible, that at times, they may be directed principally

by atmospheric phenomena alone ; and hence we find that their appearance is frequently a concomitant of the approaching season, and the wild Petrel of the ocean is not the only harbinger of storm and coming change. The currents of the air, in those which make extensive voyages, are sedulously employed ; and hence, at certain seasons, when they are usually in motion, we find their arrival or departure accelerated by a favorable direction of the winds. That birds also should be able to derive advantage in their journeys from the acuteness of their vision, is not more wonderful, than the capacity of a dog to discover the path of his master, for many miles in succession, by the mere scent of his steps. It is said, indeed, in corroboration of this conjecture, that the Passenger or Carrying Pigeon, is not certain to return to the place from whence it is brought, unless it be conveyed in an open wicker basket, admitting a view of the passing scenery. Many of our birds, however, follow instinctively the great valleys and river courses, which tend towards their southern or warmer destination ; thus the great valleys of the Connecticut, the Hudson, the Delaware, the Susquehannah, the Santee, and more particularly the vast Mississippi, are often, in part, the leading routes of our migrating birds. But, in fact, mysterious as is the voyage and departure of our birds, like those of all other countries where they remove at all, the destination of many is rendered certain, as soon as we visit the southern parts of the Union, or the adjoining countries of Mexico, to which they have retired for the winter ; for now, where they were nearly or wholly unknown in summer, they throng by thousands, and flit before our path like the showering leaves of autumn. It is curious to observe the pertinacity of this adventurous instinct in those, more truly and exclusively insectivorous species, which wholly leave us for the mild and genial regions of the tropics. Many penetrate to their destination through Mexico over land ; to these the whole journey is merely an amusing and varied feast ; but to a much smaller number, who keep too far toward the sea-coast, and enter the ocean-bound peninsula of Florida, a more arduous aerial voyage is presented ; the wide ocean must be crossed, by the young and inexperienced, as well as the old and venturesome, before they arrive either at the tropical continent, or its scattered islands. When the wind proves propitious, however, our little voyagers wing their unerring way like prosperous fairies ; but, baffled by storms and contrary gales, they often suffer from want, and at times, like the Quails, become victims to the devouring waves. On such unfortunate occasions,

(as Mr. Bullock * witnessed in a voyage near to Vera Cruz late in autumn,) the famished travellers familiarly crowd the decks of the vessel, in the hope of obtaining rest and a scanty meal, preparatory to the conclusion of their unpropitious flight.

Superficial observers, substituting their own ideas for facts, are ready to conclude, and frequently assert, that the old and young, before leaving, assemble together for mutual departure; this may be true, in many instances, but in as many more a different arrangement obtains. The young, often instinctively vagrant, herd together in separate flocks previous to their departure, and guided alone by the innate monition of nature, seek neither the aid nor the company of the old; consequently in some countries flocks of young of particular species are alone observed, and in others, far distant, we recognise the old. From parental aid, the juvenile company have obtained all that nature intended to bestow, existence and education; and they are now thrown upon the world among their numerous companions, with no other necessary guide than self-preserving instinct. In Europe it appears that these bands of the young always affect even a warmer climate than the old; the aëration of their blood not being yet complete, they are more sensible to the rigors of cold. The season of the year has also its effect on the movements of birds; thus certain species proceed to their northern destination more to the eastward in the spring; and return from it to the southwestward in autumn.

The habitudes and extent of the migrations of birds admit of considerable variety. Some only fly before the inundating storms of winter, and return with the first dawn of spring; these do not leave the continent, and only migrate in quest of food, when it actually begins to fail. Among these may be named our common Song Sparrow, Chipping Sparrow, Blue-bird, Robin, Pewee, Cedar-bird, Blackbird, Meadow Lark, and many more. Others pass into warmer climates in the autumn, after rearing their young. Some are so given to wandering, that their choice of a country is only regulated by the resources which it offers for subsistence; such are the Pigeons, Herons of several kinds, Snipes, Wild Geese and Ducks, the wandering Albatros, and Waxen Chatterer.

The greater number of birds travel in the night; some species, however, proceed only by day, as the diurnal birds of prey, Crows, Pies, Wrens, Creepers, Cross-bills, Larks, Blue-birds, Swallows, and

* Travels in Mexico.

some others. Those which travel wholly in the night are the Owls, Butcher-birds, Kingfishers, Thrushes, Flycatchers, Night-Hawks, Whip-poor-wills, and also a great number of aquatic birds, whose motions are often principally nocturnal, except in the cold and desolate northern regions, where they usually retire to breed. Other birds are so powerfully impelled by this governing motive to migration, that they stop neither day nor night; such are the Herons, Motacillas, Plovers, Swans, Cranes, Wild Geese, Storks, &c. When untoward circumstances render haste necessary, certain kinds of birds, which ordinarily travel only in the night, continue their route during the day, and scarcely allow themselves time to eat: yet the singing birds, properly so called, never migrate by day, whatever may happen to them. And it may here be inquired, with astonishment, how these feeble but enthusiastic animals are able to pass the time, thus engaged, without the aid of recruiting sleep? But so powerful is this necessity for travel, that its incentive breaks out equally in those which are detained in captivity; so much so, that although, during the day, they are no more alert than usual, and only occupied in taking nourishment, at the approach of night, far from seeking repose, as usual, they manifest great agitation, sing without ceasing in the cage, whether the apartment is lighted or not; and when the moon shines, they appear still more restless, as it is their custom, at liberty, to seek the advantage of its light, for facilitating their route. Some birds, while engaged in their journey, still find means to live without halting; the Swallow, while traversing the sea, pursues its insect prey; those who can subsist on fish, without any serious effort, feed as they pass or graze the surface of the deep. If the Wren, the Creeper, and the Titmouse rest for an instant on a tree to snatch a hasty morsel, in the next they are on the wing, to fulfil their destination. However abundant may be the nourishment which presents itself to supply their wants, in general, birds of passage rarely remain more than two days together in a place.

The cries of many birds, while engaged in their aerial voyage, are such as are only heard on this important occasion, and appear necessary for the direction of those which fly in assembled ranks.

During these migrations, it has been observed, that birds fly ordinarily in the higher regions of the air, except when fogs force them to seek a lower elevation. This habit is particularly prevalent with Wild Geese, Storks, Cranes, and Herons, which often pass at such a height as to be scarcely distinguishable.

We shall not here enter into any detailed description of the manner in which each species conducts its migration; but shall content ourselves with citing the single remarkable example of the motions of the Cranes. Of all migrating birds, these appear to be endowed with the greatest share of foresight. They never undertake the journey alone: throughout a circle of several miles, they appear to communicate the intention of commencing their route. Several days previous to their departure, they call upon each other by a peculiar cry, as if giving warning to assemble at a central point; the favorable moment being at length arrived, they betake themselves to flight, and, in military style, fall into two lines, which, uniting at the summit, form an extended angle with two equal sides. At the central point of the phalanx, the chief takes his station, to whom the whole troop, by their subordination, appear to have pledged their obedience. The commander has not only the painful task of breaking the path through the air, but he has also the charge of watching for the common safety; to avoid the attacks of birds of prey; to range the two lines in a circle, at the approach of a tempest, in order to resist with more effect the squalls which menace the dispersion of the linear ranks; and, lastly, it is to their leader that the fatigued company look up to appoint the most convenient places for nourishment and repose. Still, important as is the station and function of the aerial director, its existence is but momentary. As soon as he feels sensible of fatigue, he cedes his place to the next in the file, and retires himself to its extremity. During the night, their flight is attended with considerable noise; the loud cries which we hear, seem to be the marching orders of the chief, answered by the ranks who follow his commands. Wild Geese, and several kinds of Ducks, also make their aerial voyage nearly in the same manner as the Cranes. The loud call of the passing Geese, as they soar securely through the higher regions of the air, is familiar to all; but as an additional proof of their sagacity and caution, we may remark, that when fogs in the atmosphere render their flight necessarily low, they steal along in silence, as if aware of the danger to which their lower path now exposes them.

To assist the efforts of birds, and sustain them through their long journeys, it is often necessary to borrow the aid of the winds; but that this element may assist, it is proper that it meet them; or be in the reverse of its aid to the navigator. This observation is so far verified, that to succeed in the chase of birds upon the water, it

is necessary to approach them by cutting the wind upon them ; consequently, by the disposition of their wings, they are obliged to come towards the boat, which is also at the same time pushed towards them. Our common Passenger Pigeons and Wild Geese, decided migrators, may be observed, when moving in the largest bodies, flying in a path contrary to the wind. The direction of the winds is then of great importance to the migration of birds, not only as an assistance when favorable, but to be avoided when contrary, as the most disastrous of accidents, when they are traversing the ocean. If the breeze suddenly change, the aerial voyagers tack to meet it, and diverging from their original course, seek the asylum of some land or island, as is the case very frequently with the Quails, who consequently, in their passage across the Mediterranean, at variable times, make a descent in immense numbers on the islands of the Archipelago, where they wait, sometimes for weeks, the arrival of a propitious gale to terminate their journey. And hence we perceive the object of migrating birds, when they alight upon a vessel at sea ; it has fallen in their course while seeking refuge from a baffling breeze, or overwhelming storm, and after a few hours of rest, they wing their way to their previous destination. That nature has provided ample means to fulfil the wonderful instinct of these feeble but cautious wanderers, appears in every part of their economy. As the period approaches for their general departure, and the chills of autumn begin to be felt, their bodies begin to be loaded with cellular matter, and at no season of the year are the true birds of passage so fat as at the approach of their migration. The Gulls, Cranes, and Herons, almost proverbially macilent, are at this season loaded with this reservoir of nutriment, which is intended to administer to their support through their arduous and hazardous voyage. With this natural provision, dormant animals also commence their long and dreary sleep through the winter ; a nutritious resource, no less necessary in birds while engaged in fulfilling the powerful and waking reveries of instinct.

But if the act of migration surprise us when performed by birds of active power of wing, it is still more remarkable when undertaken by those of short and laborious flight, like the Coots and Rails, who, in fact, perform a part of their route on foot. The Great Penguin (*Alca impennis*), the Guillemot, and the Divers, even make their voyage chiefly by dint of swimming. The young Loons (*Colymbus glacialis*), bred in inland ponds, though proverbially lame (and hence the name of Lom or Loon), without recourse to their wings,

which are at this time inefficient, continue their route from pond to pond, floundering over the intervening land by night, until at length they gain some creek of the sea, and finally complete their necessary migration by water.

Birds of passage, both in the old and new continents, are observed generally to migrate south-west in autumn, and to pass to the north-east in spring. Parry, however, it seems, observed the birds of Greenland proceed to the south-east. This apparent aberration from the usual course, may be accounted for by considering the habits of these aquatic birds. Intent on food and shelter, a part, bending their course over the cold regions of Norway and Russia, seek the shores of Europe; while another division, equally considerable, proceeding south-west, spread themselves over the interior of the United States and the coast and kingdom of Mexico.

This propensity to change their climate, induced by whatever cause, is not confined to the birds of temperate regions; it likewise exists among many of those who inhabit the tropics. Aquatic birds, of several kinds, according to Humboldt, cross the line on either side about the time of the periodical rise of the rivers. Waterton, likewise, who spent much time in Demerara and the neighbouring countries, observed, that the visits of many of the tropical birds were periodical. Thus the wonderful Campanero,* whose solemn voice is heard, at intervals, tolling like the convent bell, was rare to Waterton, but frequent in Brazil, where they most probably retire to breed. The failure of particular food at any season, in the mildest climate, would be a sufficient incentive to a partial and overland migration with any species of the feathered race.

The longevity of birds is various, and, different from the case of man and quadrupeds, seems to bear but little proportion to the age at which they acquire maturity of character. A few months seems sufficient to bring the bird into full possession of all its native powers; and there are some, as our Marsh Titmouse or Chicadee, which, in fact, as soon as fledged, are no longer to be distinguished from their parents. Land animals generally live six or seven times as long as the period required to attain maturity; but in birds the rate is ten times greater. In proportion to their size, they are also far more vivacious and long-lived, than other animals of the superior class. Our knowledge of the longevity of birds is, however, necessarily limited to the few examples of domesticated species, which we have been able

* *Casuarhyrnchos carunculata*.

to support through life; the result of these examples is, that our domestic fowls have lived twenty years; Pigeons have exceeded that period; Parrots have attained more than thirty years. Geese live probably more than half a century; a Pelican has lived to eighty years; and Swans, Ravens, and Eagles have exceeded a century: even Linnets, in the unnatural restraints of the cage, have survived for fourteen or fifteen years, and Canaries twenty-five. To account for this remarkable tenacity of life, nothing very satisfactory has been offered; though Buffon is of opinion, that the soft and porous nature of their bones contributes to this end, as the general ossification and rigidity of the system perpetually tends to abridge the boundaries of life.

In a general way it may be considered as essential for the bird to fly, as it is for the fish to swim, or the quadruped to walk; yet in all these tribes there are exceptions to the general habits. Thus among quadrupeds, the Bats fly; the Seals, and other animals of that description, swim; and the Beaver and Otter, with an intermediate locomotive power, swim better than they can walk. So also among birds, the Ostrich, Cassowary, Dodo, and some others, incapable of flying, are obliged to walk; others, as the Penguins, Dippers, and Razor-bills, fly and swim, but never walk. Some, in fine, like the Birds of Paradise, Swallows, and Humming-birds, can neither walk nor swim, but pass their time chiefly on the wing. A far greater number of birds live on the water than of quadrupeds, for of the latter there are not more than five or six kinds furnished with webbed or oar-like feet; whereas of birds with this structure there are above three hundred. The lightness of their feathers and bones, as well as the boat-like form of their bodies, contributes greatly to facilitate their buoyancy and progress in the water, and their feet serve as oars to propel them.

Thus in whatever way we view the feathered tribes which surround us, we shall find much both to amuse and instruct. We hearken to their songs with renewed delight, as the harbingers and associates of the season they accompany. Their return, after a long absence, is hailed with gratitude to the Author of all existence; and the cheerless solitude of inanimate nature is, by their presence, attuned to life and harmony. Nor do they alone administer to the amusement and luxury of life; faithful aids as well as messengers of the seasons, they associate round our tenements, and defend the various productions of the earth, on which we so much rely for subsistence, from the destructive depredations of myriads of insects, which, but

for timely riddance by unnumbered birds, would be followed by a general failure and famine. Public economy and utility, then, no less than humanity, plead for the protection of the feathered race; and the wanton destruction of birds, so useful, beautiful, and amusing, if not treated as such by law, ought to be considered as a crime by every moral, feeling, and reflecting mind.

Nest of the Tailor-Bird.



BIRDS OF PREY.

RAPACIOUS birds seem to occupy among the feathered race, the same situation as the carnivorous order among the quadrupeds. All obtain their subsistence from the animal kingdom, and most of them live essentially on flesh. Some, dastardly and indolent by nature, as well as unprovided with the means of seizing prey, live on carrion and garbage, and act the useful part of scavengers in ridding the earth of such offensive matters. Others boldly or insidiously attack living animals, quadrupeds or birds. Some again there are, that subsist almost wholly on fish and reptiles; and a few of small size are contented with crustaceous-winged insects. Less attached to the earth than other birds, they traverse the ærial regions with a rapid flight, and often disappear from view in the ambient space, from whence, ever watchful and keen of sight, they survey the wide landscape and mark out their distant quarry. Some peculiarities of their skeleton are in accordance with the power of their wings; thus the sternum is broad and completely ossified in order to give more extensive insertion to the muscles. The fourchette also, semicircular and widely separated, serves effectually to resist the violent motions of the humerus in the act of rapid flying. Endowed with such powerful means of flight, and natural weapons of destruction, they are justly the terror of all other birds. Wan-

derers and vagabonds, they live in solitude, or only associate by pairs. Their parental feeling, indeed, commonly vanishes with the growth of their offspring; the young are driven forth with violence, and sometimes even savagely destroyed by these, their fierce, though natural protectors. Nature, apparently willing to diminish or abridge the number of such cruel animals, has limited their annual progeny to a single brood, and their eggs, sometimes 2, never exceed the number of 4. For this purpose their nests are hidden in the clefts of inaccessible rocks, or fixed in the summits of the tallest trees; and in the nocturnal kinds, in hollow trunks, or the ruins of desolate buildings which their discordant cries fill with sounds of horror; the diurnal, also in-quiet, gloomy, and suspicious, utter often loud, squealing plaints, or, in the larger kinds, almost wolfish barkings, sounds consonant with their insatiable and sanguinary appetites: indeed, when their victims are sufficiently abundant, their sole drink is often blood, and like the votary of intemperance, water, to quench their thirst, is only a last resort. The more powerful birds of this order see with proverbial perfection in the day, and like most others have the eyes directed sideways. The nocturnal tribe pass away this period in sleep and indolence, only perceiving their prey distinctly in the twilight, and in these the eyes are placed in front. The structure of their digestive organs indicates the stern necessity of this life of rapine. Their prey is either torn to pieces or swallowed whole; in either case the hair, bones and feathers, indigestible to them, are successively ejected from the stomach, by the mouth, in small balls or pellets. They eat largely when occasion offers, and can also fast for several days. In all this tribe the female is larger than the male, and this disparity sometimes amounts to a



third ; she alone hatches the brood, and probably, finds the occasional necessity of defending them from her unfeeling mate.

This order of birds are well distinguished by their short, robust bill, compressed at its sides, and curved towards its extremity ; the upper mandible is also covered at its base by a particular coating called the *cere*. The nostrils are open. The feet strong, short, or of middling length, feathered to the knees, or sometimes down to the toes. The toes are three before, and one behind, all equally touching the ground, and wholly divided, or united at the base by a membrane ; the sole is rough, to assist in holding the animals on which they feed, and more remarkably so in those which live on fish, and require this additional aid to retain their slippery prey. The toes are armed with powerful, sharp, retractile, and curved nails.

VULTURES.

THESE are ignoble, cowardly, and gregarious birds, generally confined to mild or warm climates, where, feeding on unburied carcasses and filth, they render an important service to man, and in the Southern parts of the United States they are consequently protected from destruction by law. They sometimes also prey upon small living animals, reptiles, and the eggs of birds. They are exceedingly indolent, and in their mean and disgusting figure, slovenly attitude, fœtid scent, and heavy gait, they are strikingly distinguished from those birds of rapine which give a preference to living animals, and seize their prey by stratagem or strength. In the conformation of their feet and claws, they are destitute of that powerful armature which is peculiar to the other rapacious birds ; they are unable to make use of these members either in attacking or conveying their prey, which must consequently be consumed on the spot. Their head and neck wholly naked, or partially clothed with a woolly down, is small compared with the size of the body, and the latter is frequently long and slender. Although their flight is slow,

they can elevate themselves to a prodigious height, ascending and descending in wide spiral circles. Their sight, like that of the Hawks and Eagles, is keen ; and the organ of scent was improperly supposed to be very perfect. They nest often amidst inaccessible rocks, laying but two eggs, and bear in their ample craw nourishment for their young, which they disgorge before them. They moult once in the year : and difference of size alone distinguishes the sexes in appearance.

None of the Vultures, properly so called, exist out of the ancient continent ; but the genus *Cathartes*, which comprehends our Vultures, admits of geographical and natural sections, the transatlantic species being still separable from those of America.

1. CATHARTES.

IN this genus the BILL is long and straight, merely curved towards the point ; the cere is naked and extending beyond the middle of the beak ; the NOSTRILS oval, naked and pervious ; and situated about the centre of the bill : the tongue channeled, with the edges serrated. — Head elongated, flattened, and wrinkled. The tarsus or leg rather slender and naked ; the side toes equal, the middle toe long and united to the exterior at its base ; the hind one shortest. The first primary, or quill, rather short, the third longest. In the American section of the genus, the bill is rather stout ; and the tail consists of 12 feathers.



THE CONDOR.

† (*Cathartes gryphus*, TEMMINCK. *Vultur gryphus*, LINNÆUS.)

SPECIFIC CHARACTER.—Blackish; wings varied with white, and not extending beyond the tail; collar white; the head furnished with a fleshy crest.—*Female* destitute of the caruncle. The *young* wholly brown.

THE CONDOR derives its name from an Indian word which alludes to its supposed sagacious scent. It inhabits the whole chain of the Andes of Mexico, Peru, and Chili, and, on the authority of Lewis and Clarke, they are not uncommon in the range of the Rocky Mountains, towards the sources of the Missouri, where, in their journey, they are mentioned as enormous bustards; though the bill and talons of one which was presented to Peale's

museum proved the bird to be either the present species, or the nearly allied *Vultur californianus*. The migration of these birds into this cool alpine region is in conformity with their habits in the milder climates of Mexico and South America, where, according to Humboldt, they are known to soar to an elevation almost six times greater than that at which the clouds are ordinarily suspended over our heads. At the immense height of nearly 6 perpendicular miles, the Condor is seen majestically sailing in the ethereal space, watchfully surveying the vast expanse in quest of his accustomed prey. Elevated farther above our planet than any other animal, impelled by hunger alone he descends into the nearest plains which border the Cordilleras; but his stay in this region is only for a few hours, as he prefers these desolate and lofty mountains, and this rarified aërial space, in which the barometer only attains an elevation of about 16 inches. These rocky eyries of the Peruvian Andes (whose plain is elevated about 15,000 feet above the level of the sea,) have hence obtained the vernacular name of *Condor nests*. Here, perched in dreary solitude, on the crests of scattered rocks, at the very verge of the region of perpetual snow, these dark gigantic birds are seen silently reposing like melancholy spectres, rousing only from their slumbers at the calls of hunger. Their peculiar residence is the great chain of the high Andes, where they associate 3 or 4 together upon the points of cliffs without either fearing or injuring men, so that they may be approached within 4 yards without showing alarm, or making on their part any attempt at attack. Hardly an instance is really known of their even assaulting an infant, though some credulous naturalists, with the exaggerating privilege of travellers, have given accounts of their killing young persons of 10 or 12 years of age. Their ability

for such rapine is not to be doubted, but their natural cowardice forbids the attempt. At the same time, it is not uncommon to see them follow and hover around a young bull until they have torn out his eyes and tongue.

A pair of Condors will not only in this way attack the Deer of the Andes, the *Puma* or American Lion (our Panther), the Vicogne, and the Lama (or American Camel), but also the Wild Heifer. They will pursue it for a long time, occasionally wounding it with their bill and claws, until the unfortunate animal, now stifled and overcome with fatigue, extends its tongue and groans; on which occasion the Condor seizes this member, being a very tender and favorite morsel, and tears out the eyes of his prey, which at length falls prostrate to the earth and slowly expires. The Condor then gorges himself, and rests in stupidity, and almost gluttonous inebriation, perched upon the highest neighbouring rocks. The formidable hunter now loaded with his meal, may be driven about without his attempting to fly; and in this state the Indians sometimes pursue them with the *lasso* or noose, and easily take them captive. Thus restrained, the Condor makes extraordinary efforts to rise into the air; but fatigued by the attempt, he begins to disgorge himself freely, an effort he appears to assist by lengthening and shortening the neck, and bringing forward the sheath of his beak. They will approach dwellings when allured by the scent of food; and a dead animal will draw down a crowd of these gluttons, where none at the time are at all visible; they tear and eat with the greatest voracity, pushing sometimes with their feet, and flapping their wings.

They make no nest, but deposit their eggs upon the naked rock; these are wholly white, and 3 or 4 inches in length. It is said that the female remains with her

young for the space of a year. The young Condor has no feathers. His body, for several months, is covered only with a very fine down or whitish frizzled hair, which resembles that of young owls. This down disfigures the young bird so much, that in this state it appears almost as large as an adult.

The Condor at the end of the second year changes from black to blackish brown. The female as well as the male, at this age, acquires the white color at the base of the naked neck, consisting of longer feathers than those on the rest of the body. The bill is straight, but strongly hooked at the point; the lower mandible considerably shorter than the upper; the plumage is white in front, everywhere else of a brownish grey. The head and neck are naked, and covered with a hard, dry, and wrinkled skin of a reddish color, and scattered over with short, rigid, brown, or blackish hairs. The cranium is remarkably flattened, as in most other ferocious animals. The fleshy, or almost cartilaginous crest, peculiar to the male, occupies the summit of the head, and is about one fourth the length of the bill; it is of an oblong figure, and thin and wrinkled. The skin of the head in the male forms, behind the eye, folds or rugosities, and beard-like tufts, which descend towards the neck, and there unite into a loose membrane, which the animal has the power of rendering more or less visible, and swelling out at pleasure, somewhat after the manner of the Turkey. The ear is large, and hidden under a membranous fold. The eye is remarkably elongated, farther removed from the bill than in the eagles, very lively, and of a purple color; the whole neck is covered with parallel wrinkles, but the skin is not so loose as that which covers the throat. The wrinkles are placed longitudinally, and originate in the habit this Vulture has of drawing in its neck, and hiding it in the collar, which serves it as a hood. This collar, formed of silky down, is common to the adult of both sexes; it is a white band which separates the naked part of the neck from the rest of the body covered with true feathers. The back, the wings, and the tail are of a greyish black. The feathers of the Condor are sometimes of a brilliant black; but most frequently the black borders on grey. The primary quill feathers of the wing are black, and the secondaries are both in the male and female exteriorly edged with white. In the female, the wing coverts are of a greyish-black, but the points, and even

the half of these feathers, are white in the male, so that the wing appears in this sex ornamented with a large white patch. The tail is wedge-shaped, rather short, and blackish in both sexes. The feet are very stout, of a greyish blue, and ornamented with white wrinkles; the nails are blackish, but little crooked, and very long; the 4 toes are connected by a very loose but strongly marked membrane; the 4th toe is very small, and the nail more curved.

Total length, 2 to 3 feet 2 lines (French measure); bill 1 inch 10 lines; extent of the wings about 9 feet and a half our measure; the tail about 1 foot 2 inches; intermediate or longest toe, with the nail, near half a foot. The measurements of this bird have been greatly exaggerated; an individual, in the Leverian Museum in England, is said to have extended, from the end of the wings, 13 feet 1 inch (French measure.) Desmarchais gave it a stretch of 18 feet, and adds, that the excessive magnitude of its wings hindered it from entering into the forests! It always, however, from choice, perches on the ground, or on elevated rocks, its talons, by their situation, not affording it a sufficient support on the branches of trees.

CALIFORNIAN VULTURE.

† (*Cathartes californianus*, RANZ. BONAPARTE, Annal. Lyc. vol. II. p. 22. *Cathartes vulturinus*, TEMM. *Vultur californianus*, LATHAM. SHAW'S Naturalist's Miscellany, vol. ix. p. 301.)

SPEC. CHARACT. — Blackish: feathers of the collar and breast lanceolate; the wings reaching much beyond the tail.

THIS bird which Menzies brought from California, and deposited in the British Museum, seems, according to Latham, to have some affinity with the Condor, and almost equals it in size. Considering the great predilection all this part of the Vulture section (*Cathartes*) have for temperate regions, seeking out, in the warmer latitudes, the high Andes for their favorite abode, we may naturally enough expect to meet with this species in some part of the extensive range of the Rocky Mountains; and indeed we are by no means certain but that the Vulture met with by Lewis and Clarke may, in fact,

prove to be the present. Nor is it likely that this species can remain wholly confined to the narrow limits of the Andes of California, but probably it associates with the true Condor over an extensive range, agreeably to the habit of all the other species; and notwithstanding Humboldt's criticism, it is not improbable, that the *black Condor* of the Peruvians may be the present species.

The general color of this bird is black; but the secondary quill feathers are whitish at their extremities, and the coverts of the wings incline to brown; the folded wings extend beyond the tail. The skin of the head and neck is destitute of feathers, smooth and of a dusky red; across the forehead passes a blackish bar, and 2 other parallel ones are seen on the hind-head. The bill is of a pale color; the base of the neck, as usual, is surrounded with a ruff of narrow *black* feathers; and the under parts of the body are covered with loose and downy plumes. The tail is equal at its extremity, and the feet black.

KING VULTURE.

(*Cathartes papa*, ILLIGER. BONAP. *Vultur papa*, LIN. and LATHAM.
Gypagus papa, VIEILLOT, Dictionaire Hist. Nat. vol. xxxvi.
 p. 456. tab. ii. fig. 1.)

SPEC. CHARACT.—Reddish-white; wings and tail black; nostrils carunculated.—*Young*, dark bluish; belly and sides of the rump whitish.

THIS beautiful species is found in America from the 30th degree of north latitude to the 32d in the southern hemisphere; but they become more numerous as we advance towards the torrid zone. They are met with in Peru, Brazil, Guiana, Paraguay, and Mexico.

The king of the Vultures, which the Spaniards of Paraguay call the *White Crow*, from the color which prevails in its plumage, is very shy when found upon the

ground or upon an isolated tree, but may be approached and readily killed, when in the woods, or in some place to which carrion has attracted it. While this bird is feeding, either through fear or aversion, the common Vultures or Turkey-Buzzards keep at a distance, and are contented with the fragments left by their monarch. According to M. de Azara, it makes its nest in hollow trees, where it lays 2 eggs.

The bill of this species is straight for one third of its length, then strongly curved, and surrounded at its base by a membrane which forms, on either side up to the eyes, a large depression, in which are situated the ample openings of the nostrils; between these arises a kind of loose, soft crest, which moves readily from one side to the other, its extremity terminating in a remarkable cluster of warts. The crown of the head is naked and of a scarlet color; a band of very short black hairs goes from one eye to the other across the hind-head. Below the naked part of the neck there is a very handsome plummy, greyish collar, with the feathers directed backward and forward; it is sufficiently large to allow the bird at will to retract and hide his neck and part of his head. Behind the eye are some large wrinkles which come together on the hind-head and form a salient, fleshy, orange band, which descends from thence to the collar; these wrinkles hide the auditory canal, which is very small, and afterwards unite with the other wrinkles which extend to the bill; betwixt these wrinkles we perceive a down as well as on the other sides of the head. The quills and the great coverts of the wings, the tail, a space over the back, and the bill up to the membrane, with the feet, are black. The membrane and the fleshy crest of the beak are orange; the naked skin at the base of the bill is purple; the edges of the eye-brows are of a lively red; the sides of the neck are flesh-colored, purple below the head, yellow above, and of a darkish violet near to the band, and the wrinkles of the hind-head. The iris, and all the rest of the plumage, are white. Some individuals, supposed to be males, have a feeble tint of red with the white of the upper part of the back. Total length $29\frac{1}{2}$ inches (French). This description applies to the bird when it has accomplished its 4th year.

At 3 years of age there is some black in the middle of the white wing coverts. At 2 years of age, the whole head and the naked

part of the neck are of a black inclining to violet, with a little yellow upon the neck ; all the upper parts blackish ; the lower similar, but with long blotches of white. The crest black, scarcely movable, and having its extremity divided into 3 very small protuberances. In its *first year*, it is throughout of a dark greyish blue, with the exception of the belly and the sides of the rump, which are white ; the under part of the feathers also beneath the body are white. The feet greenish. The upper mandible is blackish red ; the lower, orange mixed with blackish, and with long black spots. The naked parts of the head and neck black, and the iris also dark, as well as the crest, which consists, at this age, of only a single solid and fleshy excrescence.

The *White-tailed Vulture* of Bartram, called also the *Sacred Vulture*, from its veneration by the Creeks, seems in this particular of the color of the tail to differ essentially from the true King Vulture, to which it is referred by Latham. Mr. Vieillot considers it as a distinct species, and describes it as follows : It has the bill long and straight almost to its extremity, where it is curved abruptly and becomes very pointed ; the head and neck are naked almost to the stomach, where the feathers begin to cover the skin ; they then lengthen by degrees, and form a ruff in which the bird, contracting its neck, hides it up to the head. The naked skin of the neck is spotted, wrinkled, and of a lively yellow, mixed with coral red ; the posterior part is almost covered with short thick hairs, and the skin is of a deep purple, which becomes more clear and red as it approaches the yellow at the sides of the fore part of the neck ; the crown of the head is red ; there are some orange red appendices at the base of the upper mandible. Its plumage is ordinarily white, with the exception of the wing and 2 or 3 ranges of small feathers covering it, which are of a fine deep brown. The tail is large, white, and sprinkled with the same brown or black color. The legs and feet are of a clear white. The eye is surrounded with a golden-colored iris.

The Creeks, according to Mr. Bartram, form their royal standard with the feathers of this bird, to which they give the name of the *Eagle's tail*. These birds are scarcely ever seen in Florida, except after the burning of the prairies, when they assemble from all quarters, and approaching by degrees the scorched plains, collect, amidst the still warm ashes, the roasting reptiles, snakes, lizards, frogs, &c. on which they feed. Having thus gorged themselves, they become

an easy prey, and, even during their repast, seem so employed as to fear no danger. During a late journey to West Florida I made many inquiries respecting this rare bird, but could only learn, that they were occasionally seen near the sea-coast of the Gulf of Mexico.

TURKEY-BUZZARD.

†(*Cathartes aura*, ILLIG. BONAP. *Vultur aura*, LIN. and LATH. WILSON. Am. Orn. Vol. ix. p. 95. pl. 75. f. 1.)

SPEC. CHARACT. — Blackish; neck feathered equally all round; wings not extending beyond the tail, which is rounded; the nostrils oval. — *Young*, dark brown; with the wing-coverts and secondaries somewhat spotted with white.

THIS common Turkey-like Vulture is found abundantly in both North and South America, but seems wholly to avoid the North-eastern or New England states, a straggler being seldom seen as far as the latitude of 41 degrees. Whether this limit arises from some local antipathy, their dislike of the cold eastern storms which prevail in the spring till the time they usually breed, or some other cause, it is not easily assignable; and the fact is still more remarkable, as they have been observed in the *interior*, by Mr. Say, as far as Pembino in the 49th degree of north latitude, and by Lewis and Clarke near the Falls of the Columbia. They are, however, much more abundant in the warmer than in the colder regions; and are found beyond the equator, even as far, or farther than the La Plata. All the West India islands are inhabited by them, as well as the tropical continent, where, as in the Southern states of the Union, they are commonly protected by law, for their services as scavengers of carrion, which would prove highly deleterious in those warm and humid climates. In the winter they generally seek out warmth and shelter, hovering

often like grim and boding spectres in the suburbs, and on the roofs and chimneys of the houses, around the cities of the Southern states. A few brave the winters of Maryland, Delaware, and New Jersey ; but the greater part migrate south at the approach of cold weather.

The Turkey-Buzzard has not been known to breed north of New Jersey in any of the Atlantic states. Here they seek out the swampy solitudes, and, without forming any nest, deposit from 2 to 4 eggs in the stump of a hollow tree or log, on the mere fragments of rotten wood with which it is ordinarily strewed. Occasionally, in the Southern states, they have been known to make choice of the ruined chimney of a deserted house for this purpose. The eggs are larger than those of a Turkey, of a yellowish white, irregularly blotched with dark brown and blackish spots, chiefly at the larger end. The male often attends while the female is sitting ; and, if not materially disturbed, they will continue to occupy the same place for several years in succession.

The young are covered with a whitish down, and, in common with the habit of the old birds, will often eject, upon those who happen to molest them, the filthy contents of their stomachs.

In the cities of the south they appear to be somewhat gregarious ; and, as if aware of the protection afforded them, present themselves often in the streets, and particularly near the shambles. They also watch the emptying of the scavengers' carts in the suburbs, where, in company with the still more domestic Black Vultures, they search out their favorite morsels amidst dust, filth, and rubbish of all descriptions. Bits of cheese, of meat, fish, or any thing sufficiently fœtid, and easy of digestion, is greedily sought after, and eagerly eyed. When the

opportunity offers they eat with gluttonous voracity, and fill themselves in such a manner as to be sometimes incapable of rising from the ground. They are accused at times of attacking young pigs and lambs, beginning their assault by picking out the eyes. Mr. Waterton, however, while at Demerara, watched them for hours together amidst reptiles of all descriptions, but they never made any attack upon them. He even killed lizards and frogs and put them in their way, but they did not appear to notice them until they attained the putrid scent. So that a more harmless animal, living at all upon flesh, is not in existence, than the Turkey Vulture.

At night they roost in the neighbouring trees, but, I believe, never in flocks like the Black kind. In winter they sometimes pass the night in numbers on the roofs of the houses, in the suburbs of the southern cities, and appear particularly desirous of taking advantage of the warmth which they discover to issue from the chimneys. Here, when the sun shines, they and their black relatives, though no wise social, may be observed perched in these conspicuous places basking in the feeble rays, and stretching out their dark wings to admit the warmth directly to their chilled bodies. And, when not engaged in acts of necessity, they amuse themselves on fine clear days, even at the coolest season of the year, by soaring, in companies, slowly and majestically into the higher regions of the atmosphere; rising gently, but rapidly, in vast spiral circles, they sometimes disappear beyond the thinnest clouds. They practise this lofty flight particularly before the commencement of thunder storms; when, elevated above the war of elements, they float at ease in the ethereal space with outstretched wings, making no other apparent effort than the light balloon, only now and then steadying their sailing pin-

ions as they spread them to the fanning breeze, and become abandoned to its accidental sports. In South America, according to Humboldt, they soar even in company with the Condor in his highest flights, rising above the snowy summits of the tropical Andes.

Mr. Waterton is of opinion that this Vulture is not truly gregarious, arriving at their food from various quarters, and coming singly. It is indeed certain that on all other occasions they keep only in pairs.

The Turkey Vulture is about $2\frac{1}{2}$ feet in length, and 6 in breadth. Eyes dark or reddish-hazel. The head and neck for about an inch and a half below the ears, furnished with a reddish wrinkled skin, and some tints of blue, sprinkled with short black hairs. From the hind-head to the neck-feathers the space is covered with a black down. The fore-part of the neck is bare to the breast-bone. The plumage of the neck is large and tumid, and, with that of the back and shoulders, nearly black; almost all the rest of the body is of the same color, in parts inclining to brown. 3d primary longest. The wings extend to the end of the tail. The upper plumage is generally glossed with green and bronze, having purplish reflections. Legs feathered to the knees; the feet somewhat webbed. The bill nearly white, often tipped with bright olive green. Weight from $4\frac{1}{2}$ to 5 pounds.

BLACK VULTURE, OR 'CARRION-CROW.'

(*Cathartes jota*, BONAPARTE. *Vultur jota*, MOLINA. *V. atratus*.
WILSON. Am. Orn. ix. p. 104. pl. 75. f. 2.)

SPEC. CHARACT. — Black; neck more feathered above than below; wings not extending beyond the tail; 5th primary longest; tail a little emarginated; the nostrils linear-oblong, and the head black. — *Young*, entirely brown.

THIS smaller, black, and truly gregarious species of Vulture, in the United States, appears to be generally confined to the narrowest limits of the Southern states,

being scarcely found beyond Wilmington in North Carolina, and seems to be most numerous and familiar in the large maritime towns of South Carolina, Georgia, and Florida: thus, though abundant in Savannah, there are much fewer of this species at Augusta than of the Turkey Vulture. In the tropical regions of America they are also very common, and extend at least as far as Chili. Like the former species, with which they associate only at meal-times, they are allowed a public protection for the service they render in ridding the earth of carrion and other kinds of filth. They are much more familiar in the towns than the preceding; delighting, during winter, to remain on the roofs of houses, catching the feeble rays of the sun, and stretching out their wings to admit the warm air over their foetid bodies. When the weather becomes unusually chilly, or in the mornings, they may be seen basking upon the chimneys in the warm smoke, which, as well as the soot itself, can add no additional darkness or impurity to such filthy and melancholy spectres. Here, or on the limbs of some of the larger trees, they remain in listless indolence till aroused by the calls of hunger.

Their flight is neither so easy nor so graceful as that of the Turkey-Buzzard. They flap their wings and then soar horizontally, renewing the motion of their pinions at short intervals. At times, however, they rise to considerable elevations. In the city of Charleston and Savannah they are to be seen in numbers walking the streets with all the familiarity of domestic fowls, examining the channels and accumulations of filth in order to glean up the offal, or animal matter of any kind, which may happen to be thrown out. They appeared to be very regular in their attendance around the shambles, and some of them become known by sight. This was partic-

ularly the case with an old veteran who hopped upon one foot, (having by some accident lost the other,) and had regularly appeared round the shambles to claim the bounty of the butchers for about 20 years. In the country, where I have surprised them feeding in the woods, they appeared rather shy and timorous, watching my movements alertly like hawks; and every now and then one or two of them, as they sat in the high boughs of a neighbouring oak, communicated to the rest, as I slowly approached, a low bark of alarm or *waugh*, something like the suppressed growl of a puppy, at which the whole flock by degrees deserted the dead hog upon which they happened to be feeding. Sometimes they will collect together about one carcase to the number of 250 and upwards; and the object, whatever it may be, is soon robed in living mourning, scarcely any thing being visible but a dense mass of these sable scavengers, who may often be seen jealously contending with each other, both in and out of the carcase, defiled with blood and filth, holding on with their feet, hissing and clawing each other, or tearing off morsels so as to fill their throats nearly to choaking, and occasionally joined by growling dogs; the whole presenting one of the most savage and disgusting scenes in nature, and truly worthy the infernal bird of Prometheus.

In Carthagena, however, according to Ulloa, this species is highly serviceable to man, in the destruction it makes of the eggs of the Alligator or Cayman, the latter being one of the most formidable and destructive animals of South America. The Vulture watches the Alligator as she lays her eggs in the sand, and, immediately, on her disappearance, darts upon the deposit, and joined, as usual, by numerous comrades, soon extinguishes these nests of reptiles.

According to Mr. Abbott, this species chooses similar situations for its nest with the Turkey-Buzzard, fixing upon hollow trees in retired swamps. As no particulars, however, are given, this information is merely hearsay. I made frequent inquiries of many individuals in all the Southern states about the nest of this species, but no person could inform me that they had ever seen it. Molini, in his History of Chili, says, that it makes a careless nest of a few dry leaves or feathers, either on the ground, or sheltered by rocks, and lays 2 eggs of a dirty white.

The Black Vulture is about 26 inches long; and 4 feet 4 inches in the stretch of the wings. The bill $2\frac{1}{2}$ inches, of a dark brown color for about an inch, the remainder black. The head, and a part of the neck, are covered with a black, wrinkled skin, scattered with papillose excrescences, and set with short black hairs, and downy behind. Iris reddish-hazel. The general color of the plumage is of a dull black. A dark cream-colored spot is visible on the primaries when the wing is unfolded. The legs whitish grey. The body, when opened, smells strongly of musk.

2. FALCON.

(*Falco*. LINN. and TEMMINCK.)

GENERIC CHARACT. — With the HEAD covered with feathers. The BILL hooked; and commonly curved from its origin; provided with a colored cere, more or less hairy at its base; the lower mandible obliquely rounded, and both sometimes notched. The NOSTRILS lateral, rounded or ovoid, situated in the cere and open. The TARSUS clothed with feathers, or naked, and then scaly; the toes are 3 before, and 1 behind; the exterior commonly united at its base to the adjoining by a membrane. *Nails* sharp, strongly hooked, movable, and retractile. *Tail* of 12 feathers.

THESE are the noble birds of prey ; their aspect, entire form, and actions indicate the different manner of living they pursue, from that of the Vultures. Strength, temerity, and stratagem are the attributes of this great family of rapacious birds ; they are provided with offensive arms denied to the ignoble race who feed on carrion ; the means of flight, the power of seizing their prey, as well as the vision, are very different in each. In these, the size of the head is in proportion to the body, and wholly covered with feathers, as well as the neck, which is short and thick. Their vision is acute and extensive, their flight rapid and long sustained ; and they are able to soar to a prodigious height. They live either solitary or in pairs ; and their nourishment, by choice, consists almost always of living animals, which they seize and convey in their talons ; the different manner of seizing their prey, and the courage they display in its pursuit, distinguish them one from another. The larger species subsist on quadrupeds and birds ; others on fish ; some only attack reptiles ; but the greater number of the small species are content to live on insects, and principally devour beetles. The plumage, at different periods of age is extremely different ; the young are several years before they acquire the stable livery of the adult ; this fixed character only takes place in their 3d, 4th, or even, in some species, their 6th year. The young are always distinguished from the old by having more numerous and variable spots and lines ; when the colors of the plumage in old individuals are disposed in transverse lines and bands, the young of such species have the same marks disposed lengthwise. The females are usually a third larger than the other sex ; besides which disparity, they have often also a different-colored plumage. The moulting takes place only once in the year. — It appears scarcely possible, that amidst a genus only distinguished for harsh and quailing cries, a musical species should occur ; yet according to Daudin the *Falco musicus*, of Caffraria, chants a song morning and evening, and sometimes like the nightingale even continues his lay throughout the night.

§ 1. — FALCONS PROPERLY SO CALLED.

In these the bill is short, and curved from the base ; the edges of the upper mandible provided with a tooth which closes into a corresponding notch in the lower ; the nostrils rounded, and hav-

ing a central tubercle. Feet strong; tarsi rather short; toes strong and considerably extended; nails long, sharp, and curved. The wings long; the 1st primary equal in length to the 3d; the 2d longest; the 1st and 2d have an abrupt emargination on the inner web near their extremities.

These exist wholly on living prey, and show great address in seizing or surprising it; pursuing birds swiftly, or pouncing directly upon them from above. They nest usually in the crevices of rocks, ruins, or hollow trees. These were the species used in Falconry, and called *noble* because of the high prerogative of those who followed this amusement. The smaller species live much on insects or reptiles. In the island of Java there exists a species of this division no larger than a lark.

GYRFALCON.

† (*Falco islandicus*, LATHAM. Ind. Orn. v. i. p. 32. sp. 69. [the adult], and *Falco gyrfalco*. IBID. Ind. v. i. p. 32. sp. 68. [the young.])

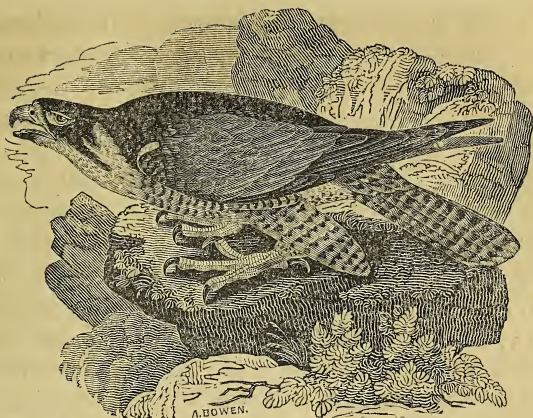
SPEC. CHARACT. — Cere and round the eyes livid yellow; feet yellow; plumage white, lined and spotted with brown; iris brown; bands of the tail 12 to 14. — *Female* more spotted, also banded on the flanks. — *Young*. Upper plumage greyish-brown, with small white terminal spots; feet plumbeous, slightly inclining to yellow; cere light bluish.

THIS elegant and celebrated falcon is about 2 feet in length; the female 2 or 3 inches longer. They particularly abound in Iceland and Greenland, and are found also throughout Siberia, and the North of Europe; Mr. Hutchins, according to Pennant, saw them commonly about Fort Albany, at Hudson's Bay. Occasionally a pair is also seen in this vicinity in the depth of winter. They brave the coldest climates, for which they have such a predilection as seldom to leave the arctic regions; the younger birds are commonly seen in the North of Germany, but very rarely the old, which are readily dis-

tinguished by the superior whiteness of their plumage which augments with age, and by the increasing narrowness of the transverse stripes that ornament the upper parts of the body. The finest of these Falcons were caught in Iceland by means of baited nets ; the bait was commonly a Ptarmigan, Pigeon, or common Fowl, and such was the velocity and power of his pounce, that he commonly severed the head from the baited bird as nicely as if it had been done by a razor. These birds were reserved for the kings of Denmark, and from thence they were formerly transported into Germany, and even Turkey and Persia. The taste for the amusement of falconry was once very prevalent throughout Europe, and continued for several centuries, but at this time it has almost wholly subsided. The Tartars, and Asiatics generally, were also equally addicted to this amusement. A Sir Thomas Monson, no later than the reign of James the First, is said to have given a thousand pounds for a cast of Hawks.

Next to the Eagle, this bird is the most formidable, active, and intrepid, and was held in the highest esteem for falconry. It boldly attacks the largest of birds ; the Stork, Heron, and Crane are to it easy victims ; in its native regions it lives much on the hare and Ptarmigan ; upon these it darts with astonishing velocity, and often seizes its prey by pouncing upon it almost perpendicularly. They breed in the cold and desert regions where they usually dwell, fixing their nests amidst the most lofty and inaccessible rocks, and are said to lay from 3 to 5 eggs.

In the old male, the bottom of all the plumage is white, striped upon the upper parts of the body and the tail with narrow brown bands. The lower parts are equally white, but marked with small brown spots in the form of tears ; these spots are larger and more numerous upon the flanks. The bill is yellowish.



COMMON OR WANDERING FALCON.

† (*Falco peregrinus*. LIN. Great-footed Hawk, WILSON, *Am. Orn.* ix. p. 120. t. 76. AUDUBON, pl. 16. [a spirited group in the act of devouring Teal.] *Le Faucon*. BUFF. pl. 421. *Le Lanier*, *ibid.* pl. 430, [an old male.])

SPEC. CHARACT. — Brownish-black ; beneath, whitish, transversely barred with blackish brown ; cheeks with a widening space of black ; middle toe as long as the tarsus ; inner web of the 1st primary only indented near the summit. — *Female* inclining to ash-color ; beneath, tending to ferruginous. — *Young* alone, greyish-black, the feathers edged with pale brown ; beneath, whitish, with large *longitudinal* central brown spots ; also with the fore and hind head and cheeks whitish yellow with black spots.

THE celebrated, powerful, and princely Falcon is common both to the continent of Europe and America. In the former they are chiefly found in mountainous regions, and make their nests in the most inaccessible clefts of rocks, and very rarely in trees, laying 3 or 4 eggs of a reddish-yellow with brown spots. In Europe, they seldom descend to the plains, and avoid marshy countries. The period of incubation lasts but a short time, and commences in winter, or very early in the Spring, so that

the young acquire their full growth by the middle of May. They are supposed to breed in the tall trees of the desolate Cedar swamps in New Jersey; which appears to be a situation very different from their usual choice in Europe. When the young have attained their growth, the parents drive them from their haunts, with incessant and piercing screams and complaints, an unnatural propensity which nothing but dire necessity, the difficulty of acquiring sustenance, alone can palliate.

In strength and temerity, the Falcon is not exceeded by any bird of its size. He soars with easy and graceful motions amidst the clouds or clear azure of the sky; from this lofty elevation he selects his victim from among the larger birds, Grouse, Pheasants, Pigeons, Ducks, or Geese. Without being perceived, he swiftly descends, as if falling from the clouds in a perpendicular line, and carries terror and destruction into the timid ranks of his prey. Instead of flying before their relentless enemy, the Partridge and Pheasant run and closely hide in the grass, the Pigeons glance aside to avoid the fatal blow which is but too sure in its aim, and the water fowls seek a more certain refuge in diving beneath their yielding element. If the prey be not too large, the Falcon mounts into the air, bearing it off in his talons, and then alights to gorge himself with his booty at leisure. Sometimes he attacks the Kite, another fellow plunderer, either in wanton insult, or more probably to rob him of his quarry.

The name of Wandering or Passenger Falcon was applied to the darkest individuals, a character merely depending on age. These frequently migrate across the Mediterranean from the islands to the neighbouring continent, and hence were looked upon as foreign. They do not, however, essentially differ from the common spe-

cies. Edwards' Black Falcon of Hudson's Bay is this kind in the same state of plumage. In New Jersey, it has, from its noted depredations, acquired the name of the Duck-Hawk along the sea-coast, where it is not unfrequent. Wilson's figure represents, apparently, an old bird, as the cere and feet are bright yellow : at an earlier period these parts much incline to green ; at this age the Falcon is in its fullest vigor, and, when well trained, was highly esteemed in the times when the princely amusement of Falconry was in fashion. Great care even was employed in selecting the young at a proper age for acquiring docility. When taken too early they often proved noisy and obstinate ; if removed from the nest they were not to be handled, but put into another artificial one. Their food was to be wild animals or chickens, so as to foster their perfect and natural growth. The sorrel-colored or light-brown Falcons, caught late in autumn, were considered the most hopeful and easiest to breed and teach ; later, the habit of freedom, and the commencement of selective attachments, rendered them less patient in captivity, and their fidelity could not be relied upon. The dark Falcon moults in August. The dispositions of these birds vary in individuals, some prove indolent and cowardly, others are so fierce that they can not be restrained. They no doubt, like other large muscular birds, live to a great age. In the year 1793 a Falcon was reported to have been caught at the Cape of Good Hope, and brought to England with a golden collar about its neck, dated 1610, and an inscription importing that the bird belonged to King James ; therefore the collar must have been on this bird 183 years ! It still appeared lively, but its eyes were dim, and the feathers round the collar were changed to white. To show the swiftness of the Falcon, it is related, that

one belonging to Henry the Second, which flew after a little Bustard at Fontainebleau, was caught next morning at Malta, and recognised by the ring which it bore.

When caught, a ring was put round the leg of the Falcon to which was attached a label bearing the name of the owner, and a small round bell was suspended from the neck in order to discover the bird when wandering astray in the chase. As no durable attachment could be expected from a bird of so rapacious a nature, obedience was obtained only by punishment and privation. At first the captive was muffled by a cap thrown over the head and retained for some days, during the greater part of which time the Hawk was suffered to fast ; and his appetite was even whetted by a cleansing dose of tow which he was made to swallow rolled up in pellets for the purpose. In a short time this severe discipline had the effect of producing a passive obedience, and he became accustomed to the muffle, and submitted quietly to the privation of light ; if still wild, the discipline was continued longer, and occasionally, the head of the malcontent was dipped into cold water. He soon became inured to the finger of the falconer, a morsel of food being held out as an inducement ; at length, he was taught, after another fast, to eat his food from amongst a lure or string of legs and wings of birds ; next he approached the sole object of his education, and flew at the prey shown to him, while retained to his keeper at the end of a long string ; and, finally, he was carried out and suffered to fly at large, to soar, and pounce upon his quarry from on high, in all the elegance and fierceness of unrestrained nature. Some of these birds, like modern dogs and horses, became the greatest favorites ; and as the amusement was restricted to the privileged ranks alone, it excited the admiration and envy of all. The male or Tier-

cel (a third less than the female) was employed to catch Partridges, Blackbirds, Magpies, Jays, and small birds; but the task of the female was to engage in the noble chase of the Hare, the Kite, the Crane, and other large objects. This recreation, not unknown even to the Romans in the early part of the Christian era, was also practised throughout the East, and still continues in Persia, Tartary, and China, where the most extravagant prices are given to the Russians and other Northern nations for these favorite birds, which appear to be more energetic in proportion to the coldness of the climates where they happen to be raised. According to Chardin, the Jer-Falcon of Russia, taken to Persia, is not allowed to be kept by any person less than the king, and each bird is valued at the extravagant price of 1500 crowns; if any of them die on the road, the ambassador brings the head and wings to his majesty, to show that he has been faithful to his charge.

The Falcon, long as it has been subjected to the caprice of man, has never been subdued or domesticated; it refuses to breed in slavery; the species at large still rove in all the freedom of their savage nature, and disown the empire of man. Their ferocity is broken by restraint and privation, so that they submit to perform a task for the hope of an accustomed reward; but they serve from habit and necessity, and not from attachment; they remain obedient captives, but never become willing domestics.

The length of this species in Europe, is 15 to 16 inches; the female is from 17 to 18. The female given by Wilson is said to be 20 inches, and 3 feet 8 inches in extent of wings. Bill greyish blue. A space around the eyes, iris, feet, and cere, yellow. Upper parts blackish-brown, the scapulars and tertials barred with faint ash (in the European adult of a cinereous blue, with bands of a darker color.) Wings not extending to the tip of the tail (in the

European the wings extend to the end of the tail.) Tail rounded, black; crossed with 8 narrow ash-colored bands. Beneath, yellowish-white, with the breast spotted with dark brown; sides, femorals, and beneath, barred rather broadly with the same. The primaries and secondaries marked transversely on their inner vanes, with large oblong spots of ferruginous white.—*Female*. NOTE. This bird appeared to live along the sea-coast, having in its stomach the remains of small birds, and of the Sanderling. As this species is not quoted by Temminck in his account of the Falcon, there is some reason to doubt the identity of the American and European species,

AMERICAN SPARROW-HAWK.

(*Falco sparverius*. LIN. WILSON, Am. Orn. ii. p. 117. pl. 16. fig. 1. [female,] and iv. p. 57. pl. 32. fig. 2. [male.])

SPEC. CHARACT.—Rufous, beneath nearly white, spotted with blackish-brown; seven black curved spots disposed around the head.—*Male*, with the wing-coverts slate-blue; tail with a single subterminal band, the two exterior feathers spotted with black.—*Female* and *young*, more banded and spotted; tail with numerous bands.

THIS beautiful and singularly marked bird, appears to reside principally in the warmer parts of the United States. They are particularly abundant in the winter throughout South Carolina, Georgia, Alabama, and Florida, whither they assemble from the remote interior of the Northern States, wandering in summer as far as the Rocky Mountains, and were even seen by Dr. Richardson in the remote latitude of 53 degrees; these appear, however, to be only stragglers; nor do they seem at all to visit the maritime districts of New England. As they were seen in St. Domingo, by Veillot, abundantly in April and May, the breeding season, we may naturally conclude that this species has a much greater predilection for the warm than the cold climates. On the south side of the equator, even in Cayenne and Paraguay, they

are still found, in all of which countries they probably breed.

According to the habits of this tribe of rapacious birds, it appears that the nest is built in a hollow, shattered, or decayed tree at a considerable elevation; the eggs are said to be 4 or 5, of a light brownish yellow and spotted with brown.

Its motions appear somewhat capricious, it occasionally hovers with beating wings, reconnoitring for prey, and soon impatiently darts off to a distance to renew the same manœuvre. In the winter, however, it is most commonly seen perched on some dead branch, or on a pole or stalk in the fields, often at a little distance from the ground, keeping up a frequent jerking of the tail, and attentively watching for some such humble game as mice, grasshoppers, or lizards. At this time it is likewise so familiar as to enter the garden, orchard, or premises near to the house, and shows but little alarm on being approached. It is however by no means deficient in courage, and like the larger true Falcons, often makes a fatal and rapid sweep upon sparrows, or those small birds which are its accustomed prey.

The *female* is 11 inches long, the stretch of the wings 23 inches. The *male* about $9\frac{1}{2}$ or 10 inches. The cere and legs are yellow. The bill bluish-grey. Space round the eye greenish-blue. Iris, dark hazel. The head bluish-ash; crown, rufous; 7 large black spots, 6 of them curving, surround the head on a white ground. The whole upper parts are of a reddish bay, striped transversely with dusky brown; the primary and secondary quills black, spotted on their inner vanes with brownish-white. Lower parts pale yellowish white, marked with longitudinal spots of brown, except the chin, vent, and thighs, which are white; the claws, black. — NOTE. The St. Domingo bird appears to be a distinct species; in it the spots on the neck are round, and are wanting altogether at some periods of its existence.

PIGEON-HAWK.

† (*Falco columbarius*. LIN. WILSON, Am. Orn. ii. p. 107. pl. 15. fig. 3. AUDUBON, pl. 92.)

SPEC. CHARACT. — Dusky brown ; beneath brownish-white, with blackish longitudinal stripes ; the tail with 4 narrow white bands.

THIS species is a little larger than the last, but by no means so abundant ; though met with in latitude 48 degrees by Long's North-Western Expedition, and occasionally extending its migrations as far as Hudson's Bay. Like the former, it is, I believe, never seen in New England, and chiefly inhabits and rears its young in the Southern States. It is shy, skulking, and watchful, seldom venturing beyond the unreclaimed forest, and flies rapidly, but, I believe, seldom soars or hovers. Small birds and mice constitute his principal food ; and, according to Wilson, he follows often in the rear of the gregarious birds, such as the Black-Birds, and Reed-Birds, as well as after the flitting flocks of Pigeons and Robins, picking up the stragglers, the weak and unguarded, as his legitimate prey. Sometimes, when shot at without effect, he will fly in circles around the gunner and utter impatient shrieks, probably in apprehension for the safety of his mate, or to communicate a cry of alarm.

The *male* is 11 inches long, and 23 broad. The *female* an inch and a half longer. The whole upper parts are of deep dusky brown, except the tail, which is thinly barred with white. The bill is of a light bluish-grey, tipped with black. The skin round the eye greenish as well as the cere ; a line over the eye of lighter brown. The lower parts brownish-white, striped with dark brown. Legs yellow ; claws black. The thigh feathers remarkably long and striped. Iris deep hazel. — The *female* darker, with some white on the hind-head.

LITTLE CORPORAL HAWK.

+ (*Falco temerarius*. AUDUBON, plate 75.)

SPEC. CHARACT. — Head, wings, and tail, deep dusky ; back and rump cinereous ; tail with 3 black bands, the terminal one broad and tipped with white ; beneath, whitish with dark oblong spots ; cere and legs yellow.

OF this beautiful small species, discovered by Audubon, we as yet know nothing on this side the Atlantic. It is probably a Southern bird, and will in due time be described by the author.

Length about 10 inches. Chin, white ; back, lead color ; 3 cinereous and 3 black bands on the tail. Beneath, white, tinged with pale rufous ; femorals pale rufous with black lines along the shafts.

EAGLES (PROPERLY SO CALLED), AQUILA.

BILL strong and elongated, straight at the base. Feet very robust ; tarsus often feathered to the toes. Toes stout, armed with very large incurved nails ; the middle one pectinated on the inner side and connected to the outer by a membrane. The wings long ; the 1st primary very short ; the 4th and 5th longest.

These are the most powerful birds of the genus, and indeed of the whole feathered race. They pursue their prey with rapid flight, seizing it in their talons, and, bearing it yet palpitating to their young, they present it to them by tearing it to pieces. The greater kinds carry off large animals and birds ; a few attack reptiles and even insects. Impelled by extreme hunger they sometimes feed upon carrion. Their sight is keen, but their sense of smell imperfect. The larger kinds inhabit and breed generally in mountainous districts.

ROYAL or GOLDEN EAGLE.

(*Falco fulvus*. LINN. *Falco chrysaëtos*. IBID. WILSON, vii. p. 13. pl. 55. fig. 1. [young]).

SPEC. CHARACT.—Dark brown; cere and toes yellow; tail much rounded, extending beyond the folded wings; nostrils elliptic; 3 scales only upon the last joint of each toe; no white scapulary feathers.—*Young*, of an uniform, ferruginous brown, and with the feathers nearly all white towards the base; tail white, with a broad terminal brown and mottled band, and no bars.

THIS ancient monarch of the birds is found in all the cold and temperate regions of the Northern hemisphere, taking up his abode by choice in the great forests and plains, and in wild, desert, and mountainous regions. His eyry, commonly formed of an extensive set of layers of large sticks, is nearly horizontal, and occasionally extended between some rock and adjoining tree, as was the one described by Willughby in the Peak of Derbyshire. About 30 miles inland from the Mandan Fort on the Missouri, I once had occasion to observe the eyry of this noble bird, which here consisted of but a slender lining of sticks conveyed into a rocky chasm on the face of a lofty hill rising out of the grassy, open plain. It contained one young bird, nearly fledged, and almost of the color of the Gyrfalcon. It appears they lay 2 and rarely 3 eggs, of an impure white, blotched with red or reddish. Near their rocky nests they are seen usually in pairs, at times majestically soaring to a vast height, and gazing on the sun towards which they ascend until they disappear from view. From this sublime elevation they often select their devoted prey, sometimes a kid or a lamb from the sporting flock, or the timid rabbit or hare crouched in the furrow, or sheltered in some bush. The largest birds are also frequently their victims; and in extreme want they will not refuse to join with the alarm-

ed Vulture in his cadaverous repast. After this gorging meal the Eagle can, if necessary, fast for several days. The precarious nature of his subsistence, and the violence by which it is constantly obtained, seems to produce a moral effect on the disposition of this rapacious bird; though in pairs, they are never seen associated with their young; their offspring are driven forth to lead the same unsocial, wandering life, as their unfeeling progenitors. This harsh and tyrannical disposition is strongly displayed, even when they lead a life of restraint and confinement. The weaker bird is never willingly suffered to eat a single morsel; and though he may cower and quail under the blow, with the most abject submission, the same savage deportment continues towards him as long as he exists. Those which I have seen in confinement frequently uttered hoarse and stridulous cries, sometimes almost barkings, accompanied by vaporous breathings, strongly expressive of their ardent, unquenchable, and savage appetites. Their fire-darting eyes, lowering brows, flat foreheads, restless disposition, and terrific plaints, together with their powerful natural weapons, seem to assimilate them to the tiger rather than the timorous bird. Yet it would appear that they may be rendered docile, as the Tartars (according to Marco Paulo in 1269) were said to train this species to the chase of hares, foxes, wolves, antelopes, and other kinds of large game, in which it displayed all the docility of the Falcon. The longevity of the Eagle is as remarkable as its strength; it is believed to subsist for a century, and is about 3 years in gaining its complete growth and fixed plumage. This bird was held in high estimation by the ancients on account of its extraordinary magnitude, courage, and sanguinary habits. The Romans chose it as an emblem for their imperial standard; and

from its aspiring flight and majestic soaring, it was fabled to hold communion with heaven, and to be the favorite messenger of Jove. The Tartars have a particular esteem for the feathers of the tail, with which they superstitiously think to plume invincible arrows. It is no less the venerated *War-Eagle* of our northern and western aborigines; and the caudal feathers are extremely valued for talismanic head-dresses, and as sacred decorations for the Pipe of Peace.

The Eagle appears to be more abundant around Hudson's Bay than in the United States; but they are not unfrequent in the great plains of the Mississippi and Missouri, as appears from the frequent use of the feathers by the natives. The wilderness seems their favorite resort, and they neither crave nor obtain any advantage from the society of man. Attached to the mountains in which they are bred, it is a rare occurrence to see the Eagle in this vicinity; and, as with some other birds, it would appear that the young only are found in the United States, while the old remain in Labrador and the northern regions. The lofty mountains of New Hampshire afford suitable situations for the eyry of the Eagle, over whose snow-clad summits he is seen majestically soaring in solitude and grandeur. A young bird from this region, which I have seen in a state of domestication, showed considerable docility. He had, however, been brought up from the nest, in which he was found in the month of August; he appeared even playful, turning his head about in a very antic manner as if desirous to attract attention; still his glance was quick and fiery. When birds were given to him, he plumed them very clean before he began his meal, and picked the subject to a perfect skeleton.

The ferocious and savage nature of the Eagle, in an unreclaimed state, is sometimes displayed in a remarkable manner. A peasant attempted to rob an eyry of this bird situated in the lake of Killarney; for this purpose he stripped and swam over to the spot in the absence of the old birds; but, on his return, while yet up to the chin in water, the parents arrived, and missing their young, instantly fell on the unfortunate plunderer, and killed him on the spot.

There are several well authenticated instances of their carrying off children to their nests. In 1737, in the parish of Norderhougs, in Norway, a boy, over 2 years old, on his way from the cottage to his parents at work in the fields at no great distance, fell into the pounce of an Eagle, who flew off with the child in their sight and was seen no more. Anderson, in his history of Iceland, says, that in that island children of 4 or 5 years of age have occasionally been borne away by Eagles: and Ray relates, that in one of the Orkneys a child of a year old was seized in the talons of this ferocious bird, and carried above 4 miles to its nest; but the mother knowing the place of the eyry, followed the bird, and recovered her child yet unhurt.

The Common, or Ring-tailed Eagle, is now found to be the young of the Golden Eagle. These progressive changes have been observed by Temminck on two living subjects which he kept for several years.

In the adult bird the summit of the head to the nape of the neck is ornamented with yellowish ferruginous pointed feathers; all the other parts of the body are of a dark brown, more or less inclining towards black according to age; the inner side of the thighs, and the feathers of the legs are of a clear brown. The primaries, in the old bird, or *F. chrysætos*, according to Brisson have the inner barbs of the first 3 indented or shortened; in a specimen which I obtained in this vicinity, the first 4 are so indented, and in the young, or

F. fulvus, the whole of the first 5 are shortened: so that this character appears to advance with the age of the bird to a certain limit. Tail of a deep grey, banded somewhat regularly with blackish-brown, and terminated, towards the point, by a wide band of the same color. Bill horn color. Iris always brown. Cere and feet yellow.

Length about 3 feet. The female as much as 3 feet 6 inches.

In the young, of *the first or second year*, the whole plumage is of a ferruginous brown or clear reddish-yellow, with the under tail-coverts whitish; the inner side of the legs and femorals pure white; the tail white for $\frac{3}{4}$ of its length, the rest brown. Nearly all the feathers are white towards their base. As the *young advances in age*, the plumage becomes browner, the white of the tail lessens in extent, and appearances of transverse bars commence. — Very rarely, individuals occur almost wholly white.



WASHINGTON EAGLE.

+ (*Falco Washingtonianus*, AUDUBON, Plate, *Loudon's Magaz. Nat. Hist.* No. 2. July, 1823. p. 115.)

SPEC. CHARACT. — Tail and upper parts dark brown, beneath reddish brown, with darker lines; cere and naked tarsus yellow; bill blackish. — *Young*, more or less spotted with white, particularly beneath.

It is to the indefatigable Audubon, that we owe the distinct notice and description of this noble Eagle, which

first drew his attention while voyaging far up the Mississippi, in the month of February, 1814. At length, he had the satisfaction of discovering its eyry in the high cliffs of Green River in Kentucky, near to its junction with the Ohio ; two young were discovered loudly hissing from a fissure in the rocks, on the approach of the male, from whom they received a fish. The female now also came, and with solicitous alarm for the safety of her young, gave a loud scream, dropped the food she had brought, and hovering over the molesting party, kept up a growling and threatening cry by way of intimidation ; and, in fact, as our disappointed naturalist soon discovered, she, from this time, forsook the spot, and found means to convey away her young. The discoverer considers the species as rare ; indeed, its principal residence appears to be in the northern parts of the continent, particularly the rocky solitudes around the great north-western lakes, where it can at all times collect its finny prey, and rear its young without the dread of man. In the winter season, about January and February, as well as at a later period of the spring, these birds are occasionally seen in this vicinity,* rendered perhaps bolder and more familiar by want, as the prevalence of the ice and cold, at this season, drives them to the necessity of wandering farther than usual in search of food. At this early period, however, Audubon observed indications of the approach of the breeding season, and Mr. N. J. Wyeth, of Fresh Pond, in this neighbourhood, has seen them contending occasionally in the air, so that one of the antagonists would sometimes suddenly drop many feet downwards as if wounded or alarmed. My friend, Dr. Hayward of Boston, had in his possession one of these fine docile Eagles for a considerable time ; but de-

* Cambridge, Mass.

sirous of devoting it to the then Linnæan Museum, he attempted to poison it, by corrosive sublimate of mercury ; several times, however, doses even of 2 drams were given to it, concealed in fish, without producing any injurious effect on its health.

The Washington Eagle, bold and vigorous, disdains the piratical habits of the Bald Eagle, and invariably obtains his own sustenance without molesting the Osprey. The circles he describes in his flight are wider than those of the White-headed Eagle ; he also flies nearer to the land or the surface of the water ; and when about to dive for his prey, he descends in circuitous, spiral rounds, as if to check the retreat of the fish, on which he darts only when within the distance of a few yards. When his prey is obtained, he flies out at a low elevation to a considerable distance to enjoy his repast at leisure. The quantity of food consumed by this enormous bird is very great, according to the account of those who have had them in confinement. Indeed they appear almost always plump and fat. Mr. Audubon's male bird weighed $14\frac{1}{2}$ pounds avoirdupois. One in a small museum in Philadelphia (according to the account of my friend Mr. C. Pickering), also a male, weighed much more, by which difference it would appear that they are capable of becoming exceedingly fat ; for the length of this bird was about the same as that of Audubon, 3 feet 6 or 7 inches. The width, however, was only about 7 feet, agreeing pretty nearly with a specimen now in the New England Museum ; so that I must necessarily believe that the measure, given by Mr. Audubon, of 10 feet 2 inches is a typographical error, and should be probably 7 feet 2 inches. The male of the Golden Eagle, the largest hitherto known, is seldom more than 3 feet long.

That this bird is not the White-tailed Eagle (*Falco albicilla*), or its young, the Sea Eagle (*F. ossifragus*), is obvious from the difference in size alone, the male of that bird being little over 2 feet 4 inches in length, or a little less even than the Bald Eagle. The female of the Washington Eagle must, of course, be 6 or 8 inches longer, which will give a bird of unparalleled magnitude amongst the whole Eagle race. This measurement of the Sea Eagle is obtained from 'Temminck's Manual of Ornithology,' who has examined more than 50 individuals. At the same time I have a suspicion that the Washington Eagle, notwithstanding this, exists also in Europe; as the *great* Sea Eagle of Brisson is described by this author as being 3 feet 6 inches in length from the point of the bill to the end of the tail, and the stretch of the wings about 7 feet! These measurements also are adopted by Buffon, but the individuals were evidently in young plumage, in which state, as described by Brisson, they again approach the present species. Nor need it be considered as surprising if 2 different species be confounded in the Sea Eagle of Europe, as the recently established Imperial Eagle had ever been confounded with the Golden. Another distinguishing trait of the Washington Eagle is in the length of the tail, which is $1\frac{1}{2}$ inches longer than the folded wings. In the White-tailed species this part never extends beyond the wings.

The upper parts of the body were generally, in the adult, described by Audubon, of a dark, shining, coppery-brown. The throat, front of the neck, breast, and belly, of a rich and bright cinnamon color, the feathers of the whole of which were long, narrow, sharp-pointed and of a somewhat hairy texture, each dashed along the centre with the dark brown of the back. Lesser wing-coverts rusty iron-grey, the same color extending from the shoulders to the lower end of the secondaries, and gradually passing into the brown of the back as it meets the scapulars. Primaries brown, darker on their

inner vanes, very broad and firm; the outer $2\frac{1}{2}$ inches shorter than the 2d, the longest 24 inches to its roots, and about $\frac{1}{2}$ an inch in diameter at the barrel. [In Mr. Pickering's specimen, the longest quill gave $25\frac{1}{2}$ inches, and in a specimen of the Bald Eagle the same corresponding feather gave only $22\frac{1}{2}$ inches, though the specimen was a female.] The under wing-coverts iron-grey. Foot warty beneath like a rasp, enabling the bird to secure its slippery prey. Leg feathers brown-cinnamon, pointed backwards. Iris hazel, inclining to chesnut. The head more convex than in the Bald Eagle.

Subgenus — HALIAETOS.

Nostrils crescent-shaped. Legs half-feathered; toes divided to the base.

These live chiefly upon fish; and keep generally near the seashores, lakes, and rivers, though their superior size and strength enable them to prey upon large animals.



WHITE-HEADED OR BALD EAGLE.

+ (*Falco leucocephalus*. LINN. WILSON. iv. p. 89. pl. 36. [adult,] and vii. p. 16. pl. 55. f. 2. [young; as the Sea Eagle.] AUDUBON, pl. PEALE'S Museum, No. 78.)

SPEC. CHARACT. — Dark brown; head and tail white; tail extending beyond the folded wings; cere, bill, and feet yellow; iris whitish-yellow. — *Young*, spotted and varied irregularly with darker and lighter brown; bill black; irids pale brown.

THIS noble and daring Eagle is found along the sea-coasts, lakes, and rivers throughout the arctic circle, being met with in Asia, Europe, and America. In Behring's isle, Mackenzie's river, and Greenland, they are not uncommon. But while they are confined in the old world to this cheerless region, so constantly, that only

*two** instances are known of their appearance in the centre of Europe, in the United States, they are most abundant in the milder latitudes, residing, breeding, and rearing their young in all the intermediate space from Nova Scotia or Labrador to the shores of the Gulf of Mexico. The rocky coast of this part of New England (Massachusetts), is however, seldom tenanted by this species though they are occasionally seen in the spring, and about the commencement of winter. In the United States it is certain that they show a decided predilection for the milder climates. It is probable, that in Europe they are deterred in their migrations by the tyrannical persecution of the White-tailed Eagle (*F. albicilla*) which abounds in that country, living also principally on fish and therefore selecting the same maritime situations as our Eagle. In the United States, he sways almost without control the whole coast of the Atlantic, and has rendered the rival Osprey his humble tributary, proscribing, in his turn, the appearance of the Sea Eagle, which, if it exist at all with us, is equally as rare as the present species appears to be in Europe.

Though on Behring's Isle the Bald Eagle is said to nest on cliffs, as the only secure situation that probably offers, in the United States, he usually selects, near the sea-coast, some lofty pine or cypress tree for his eyry; this is built of large sticks, several feet in length, forming a floor, within and over which are laid sods of earth, hay, moss, dry reeds, sedge-grass, pine tops, and other coarse materials, piled to the height of 5 or 6 feet, and 4 or 5 feet in breadth. On this almost level bed the female early in February deposits 2 eggs, one of which is said to be laid after an interval so considerable that the

* One of these, an old male, was killed in the Canton of Zurich in Switzerland; the other, a very old female, in the kingdom of Wurtemberg.

young are hatched at different periods. Lawson, however, says, that they breed so often as to commence laying again under their callow young, whose warmth assists the hatching of the eggs. This eyry or breeding-place continues to be perpetually occupied and repaired as long as the tree endures; indeed their attachment to particular places is so strong, that after their habitation has been demolished, by the destruction of the tree that supported it, they have very contentedly taken possession of an adjoining one. Nor is the period of incubation the only time spent in the nest by this species; it is a shelter and common habitation at all times and seasons, being a home like the hut to the savage, or the cottage to the peasant.

The helpless young, as might be supposed, are fed with great attention, and supplied with such a superfluity of fish and other matters, that they often lie scattered around the tree, producing the most putrid and noisome effluvia. The young are at first clothed with a whitish down; they gradually become grey, and continue of a brownish grey until the 3d year, when the characteristic white of the head and tail becomes perfectly developed. As their food is abundant, the young are not forcibly driven from the nest, but fed for some time after they have left it. They are by no means shy or timorous, will often permit a near approach, and sometimes even bristle up their feathers in an attitude of daring defence. Their cry is sonorous and lamentable, like that of the Great Eagle, and when asleep they are said to make a very audible snoring sound.

The principal food of the Bald Eagle is fish, and though he possesses every requisite of alertness and keenness of vision for securing his prey, it is seldom that he obtains it by any other means than stratagem and rapine. For

this habitual daring purpose, he is seen perching upon the naked limb of some lofty tree which commands an extensive view of the ocean; in this attitude of expectation he heedlessly surveys the active employment of the feathered throng, which course along the wavy strand, or explore the watery deep with beating wing, until from afar he attentively scans the motions of his provider, the ample-winged and hovering Osprey. At length, the watery prey is espied, and the feathered fisher descends like a falling rock; cleaving the wave, he now bears his struggling victim from the deep, and mounting in the air, utters an exulting scream. At this signal, the Eagle pirate gives chase to the fortunate fisher, and soaring above him, by threatening attitudes obliges him to relinquish his prey; the Eagle now poising for a surer aim, descends like an arrow, and snatching his booty before it arrives at the water, retires to the woods to consume it at leisure. These perpetual depredations on the industrious Osprey sometimes arouse him to seek for vengeance, and several occasionally unite to banish their tyrannical invader. When greatly pressed by hunger, the Bald Eagle has sometimes been observed to attack the Vulture in the air, obliging him to disgorge the carrion in his craw, which he snatches up before it reaches the ground. He is sometimes seen also to drive away the Vultures, and feed voraciously on their carrion. Besides fish, he preys upon Ducks, Geese, Gulls, and other sea-fowl, and when the resources of the ocean diminish, or fail from any cause, particularly on the southern migration of the Osprey, his inland depredations are soon notorious, young lambs, pigs, fawns, and even deer often become his prey. So indiscriminate indeed is the fierce appetite of this bold bird, that instances are credibly related of their carrying away infants.

An attempt of this kind, according to Wilson, was made upon a child lying by its mother as she was weeding a garden at Great Egg-Harbour in New Jersey; but the garment seized upon by the Eagle giving way at the instant of the attempt, the life of the child was spared. I have heard of another instance said to have happened at Petersburg in Georgia, near the Savannah river, where an infant, sleeping in the shade near the house, was seized and carried to the eyry near the edge of a swamp 5 miles distant, and when found, almost immediately, the child was dead. The story of the Eagle and child, in "The history of the house of Stanley," now the crest of that family, shows the credibility of the exploit, as supposed to have been effected by the White-tailed Eagle, so nearly related to the present. Indeed, about the year 1745, some Scotch reapers, accompanied by the wife of one of them with an infant, repaired to an island in Loch Lomond; the mother laid down her child in the shade at no great distance from her, and while she was busily engaged in labor, an Eagle of this kind suddenly darted upon the infant, and immediately bore it away to its rocky eyry on the summit of Ben Lomond. The alarm of this shocking event was soon spread; and a considerable party, hurrying to the rescue, fortunately succeeded in recovering the child alive.

The Bald Eagle, like most of the large species, takes wide circuits in its flight and soars at great heights. In these sublime attitudes he may often be seen hovering over water-falls and lofty cataracts, particularly that of the famous Niagara, where he watches for the fate of those unfortunate fish and other animals that are destroyed in the descent of the tumultuous waters.

In the *adult, at the age of 3 years*, all the plumage of the body and of the wings is of a deep and very lively brown or chocolate

color ; the head and upper part of the neck, as well as the tail and its coverts, are of a pure white, (but in the female incline a little to straw-color). The bill, cere, and feet yellow, with the sole of the feet rough and warty, suited for holding slippery objects. The iris whitish-yellow. The *female* about 3 feet long, with the stretch of the wings about 7 feet. The *male* 2 or 3 inches shorter. — In the *first year*, the white of the head and neck is blended with greyish-brown. These parts are variegated with the two colors in the *second year*.

The *young of the first year* are distinguished with difficulty from the young of the White-tailed Eagle ; their plumage is however less regularly varied with brown colors, and the tail is always somewhat longer.

Subgenus. — PANDION.

Bill rounded above, and with the cere hispid ; nostrils obliquely curved ; membranaceous on the upper edge. Tarsi naked, reticulated, rough ; toes divided to the base, the outer versatile ; nails equal and rounded beneath. Wings long ; 1st primary equal with the 3d ; the 2d longest.

Of a cowardly disposition, and living on fish, they inhabit near waters, retiring from them, when frozen, to warmer climates. They seize their prey in their talons near the surface of the water, or plunge for it as occasion requires ; they very rarely hunt birds.



FISH-HAWK, OR OSPREY.

(*Falco haliæetus*. LINN. AUDUBON, pl. 81, [excellent.] WILSON, v. p. 13, pl. 5. fig. 1. Philadelphia Museum, No. 144.)

SPEC. CHARACT. — Dark brown, beneath white ; cere and feet greyish-blue. — *Female* with the breast thinly spotted with pale brown. — *Young*, nearly all the feathers above terminated with yellowish-white tips.

THIS large and well known species, allied to the Eagles, is found near fresh and salt water in almost every country in the world. In summer it wanders into the arctic regions of Europe, Asia, and America ; it is also found equally prevalent in the milder parts of both continents, as in Greece and Egypt. In America it is found in the summer from Labrador, and the in-

terior around Hudson's Bay, to Florida ; and, according to Buffon, it extends its residence to the tropical regions of Cayenne.

Its food being almost uniformly fish, it readily acquires subsistence as long as the waters remain unfrozen ; but at the commencement of cool weather, even as early as the close of September, or at farthest the middle of October, they leave New York and New Jersey, and migrate further south. This early period of departure is, in all probability, like their arrival towards the close of March, wholly regulated by the coming and going of the shoals of fish on which they are accustomed to feed.* Their arrival in the spring is welcomed by the fisherman, as the sure indication of the approach of those shoals of shad, herring, and other kinds of fish which now begin to throng the bays, inlets, and rivers near the ocean ; and the abundance with which the waters teem affords ample sustenance for both the aërial and terrestrial fishers, as each pursues in peace his favorite and necessary employment. In short, the harmless industry of the Osprey, the familiarity with which he rears his young around the farm, his unexpected neutrality towards all the domestic animals near him, his sublimely picturesque flight, and remarkable employment, with the strong affection displayed towards his constant mate and long helpless young, and the wrongs he hourly suffers from the pirate Eagle, are circumstances sufficiently calculated, without the aid of ready superstition, to ensure the public favor and tolerance towards this welcome visitor. Driven to no harsh necessities, like his superiors, the Eagles, he leads a comparatively harmless life ; and

* Towards the close of March, or beginning of April, they arrive in the vicinity of Boston with the first shoal of alewives or herrings, but yet are seldom known to breed along the coast of Massachusetts.

though unjustly doomed to servitude, his address and industry raise him greatly above to his oppressor, so that he supplies himself and his young with a plentiful sustenance. His adroitness and docility in catching fish have also sometimes been employed by man for his advantage.

Intent on exploring the sea for his food, he leaves the nest and proceeds directly to the scene of action, sailing round in easy and wide circles, and turning at times as on a pivot, apparently without exertion, while his long and curving wings seem scarcely in motion. At the height of from 100 to 200 feet he continues to survey the bosom of the deep. Suddenly he checks his course and hovers in the air, with beating pinions; he then descends with rapidity, but the wily victim has escaped. Now he courses near the surface, and by a dodging descent, scarcely wetting his feet, he seizes a fish, which he sometimes drops or yields to the greedy Eagle; but, not discouraged, he again ascends in spiral sweeps, to regain the higher regions of the air, and renew his survey of the watery expanse. His prey again espied, he descends perpendicularly like a falling plummet, plunging into the sea with a loud rushing noise, and with an unerring aim. In an instant he emerges with the struggling prey in his talons, shakes off the water from his feathers, and now directs his laborious course to land, beating in the wind with all the skill of a practised seaman. The fish which he thus carries may be sometimes from 6 to 8 pounds; and so firm sometimes is the penetrating grasp of his talons, that when, by mistake, he engages with one which is too large, he is dragged beneath the waves, and at length both fish and bird perish.

From the nature of his food, his flesh, and even the eggs, are rendered exceedingly rank and nauseous. Though his prey is generally taken in the bold and spirited manner described, he sometimes sits on a tree over a pond for an hour at a time, quietly waiting its expected approach ; indeed, my friend Mr. N. J. Wyeth informs me, that he once saw one of these Hawks with a gold-fish in his talons, for which he must have cautiously stolen into some neighbouring garden.

Unlike other rapacious birds the Ospreys may be almost considered gregarious, breeding so near each other, that, according to Mr. Gardiner, there were on the small island on which he resided, near to the eastern extremity of Long Island (New York), no less than 300 nests with young. Wilson observed 20 of their nests within half a mile. I have seen them nearly as thick about Rehoboth Bay in Delaware. Here they live together at least as peaceably as rooks ; and so harmless are they considered by other birds, that, according to Wilson, the Crow-Blackbirds, or Grakles, are sometimes allowed refuge by the Ospreys, and construct their nests in the very interstices of their eyry. It would appear sometimes, that, as with Swallows, a general assistance is given in the constructing of a new nest ; for, previous to this event, a flock have been seen to assemble in the same tree, squealing as is their custom when any thing materially agitates them. At times they are also seen engaged in social gambols high in the air, making loud vociferations, suddenly darting down, and then sailing in circles ; and these innocent recreations, like many other unmeaning things, are construed into prognostications of stormy or changing weather. Their common friendly call is a kind of shrill whistle, '*phew*, '*phew*, '*phew*, repeated about 5 or 6 times, and somewhat similar to the tone of a fife.

Though social, they are sometimes seen to combat in the air, instigated probably more by jealousy than a love for rapine, as their food is always obtained from an unfailing source.

The ancients, particularly Aristotle, pretended that the Ospreys taught their young to gaze at the sun, and that those who were unable to do so were destroyed. Linnæus even believed, on ancient authority, that one of the feet of this bird had all the toes divided while the other was partly webbed, so that it could swim with one foot, and grasp a fish in the other. Aristotle likewise remarked, that the young of the White-tailed Eagle were driven from the nest before they could feed themselves, and that they would perish but for the aid and education which they received from the Osprey.* This opinion arose, no doubt, from the fact, that that species, no less than the Bald Eagle, is in the habit of plundering the Fish-Hawk for its sustenance.

The Fish-Hawk, according to the convenience of the site where it takes up its abode, forms its nest upon rocks, more rarely upon the ground among reeds, or amidst ruined and deserted buildings, or on trees; the last situation, however, appears to be universally preferred in the United States. It is commonly situated at a considerable elevation, and, like the eyry of the Eagle, continues to be occupied as long as the tree exists. The materials, however, of which the nest is composed are often of such a nature, and in such quantity, as to hasten the decay of its support. The following, according to Wilson, is the ordinary composition of this rude but substantial fabric. The external floor is made of large sticks, from $\frac{1}{2}$ an inch to $1\frac{1}{4}$ inches in diameter, and 2 or 3

* Buffon considers the bird here alluded to as the Sea Eagle, which is, however, only the young of the White-tailed species.

feet in length; these are piled to the height of 4 or 5 feet, and from 2 to 3 feet in breadth, the whole intermixed with corn-stalks, sea-weeds, and mullein-stems, filled in with large quantities of turf, and lined with the dry sea-grass (or *Zostera marina*); the materials so well matted together as often to adhere in large pieces after being blown down by the wind, and forming a mass observable at the distance of half a mile, and sufficient to form a cart-load for a horse.* As with the Rooks, they repair their nests in the autumn, previous to their southern emigration.

Early in May the Osprey commences laying, and has from 2 to 4 eggs. They are a little larger than those of the common fowl, and are from a reddish or yellowish cream color to nearly white, marked with large blotches and points of reddish brown. During the period of incubation the male frequently supplies his mate with food, and she leaves her eggs for very short intervals.

The young appear about the last of June, and are most assiduously attended and supplied. On the approach of any person towards the nest, the parent utters a peculiar plaintive, whistling note, which increases as it takes to wing, sailing round, and at times making a quick descent, as if aiming at the intruder, but sweeping past at a short distance. On the nest being invaded, either while containing eggs or young, the male displays great courage, and makes a violent and dangerous opposition. The young remain a long time in the nest, so that the old are sometimes obliged to thrust them out, and encourage them to fly; but they still, for a period, continue to feed them in the air by supplying them with fish from their talons.

* According to Edman, the Osprey, in Sweden, makes its nest in the highest trees, chiefly of Pine tops, and lines it with the leaves of the Polypody (*Polypodium vulgare*), a structure, as to materials, extremely different from that of our bird.

The length of the *male* Osprey is from 21 to 22 inches. The *female* is about 2 feet. The summit of the head, and particularly the upper part of the neck, is furnished with long and narrow feathers, darkish in the middle, and edged with yellowish white; these feathers are erectile at the will of the animal. Upper parts dark brown; there is often a white band above the eyes; a long band of deep brown along the sides of the neck; lower parts white; upon the breast some faint fawn-colored or yellowish traces; plumage of the thighs streaked down the fore-part with pale brown. Cere and feet pale greyish blue; the latter very large, covered with scales, and rough beneath like a rasp, (for the purpose of holding its finny prey.) Tail crossed with 8 bars of very dark brown, (only six in the European, according to Temminck.) Iris fiery yellow. Bill black. The wings (according to Wilson) extend about an inch beyond the tail (more than two inches, Temminck). — *When young* they have more or fewer fawn-colored spots beneath. The feathers of the upper parts are terminated with yellowish white margins; also a considerable space upon the breast of a pale fawn-color spotted with brown; the feet likewise darker.

Subgenus. — ASTUR. (AUTOURS, *Temminck.*)

The bill strong; with the tooth or lobe of the upper mandible well defined. Nostrils roundish, or inclining to oval and oblique. Tarsi rather long, shielded with a row of parallel scales. The middle toe much longer than the side ones; the outer connected at the base by a membrane, and shorter than the inner. The nails are long, much curved, and very acute. — Wings short; the first primary much shorter than the 2d; the 4th longest. The female similar in color with the male, but a third larger.

These are bold, sanguinary, and malignant birds; skimming the earth with a rapid flight, seizing their prey upon the wing, and sometimes pouncing upon it from above. They are not inclined to soar at great elevations, and only describe wide circles in their flight about the commencement of the breeding season.

AMERICAN GOSHAWK.

(*Falco atricapillus*, WILSON. Am. Orn. vi. p. 80. pl. 52. fig. 3.
F. regalis, TEMMINCK. Philadelphia Museum, No. 406.)

SPEC. CHARACT. — Dark bluish-grey; eyebrows nearly white; beneath white, everywhere transversely and narrowly banded and longitudinally lined with dark brown; tail ash-colored, banded with dark brown; cere greenish-yellow. — *Young*, dusky brown, skirted with ferruginous; beneath yellowish-white with oblong spots of dark brown; tail with 4 dark bands and tipped with white.

THE foreign representative of this elegant and spirited species of Hawk appears to be common in France, Germany, the northern parts of Great Britain, Russia, and Siberia, and extends into Chinese Tartary. Our species, so nearly related to the European bird, is very rare, migrating to the south apparently at the approach of winter. On the 26th of October, 1830, I received one of these birds from the proprietor of Fresh Pond Hotel, in the moult, having the stomach crammed with moles and mice, and it was shot in the act of devouring a Pigeon.

The Goshawk was held in considerable esteem for falconry, and, according to Bell, was employed for this amusement by the emperor of China, who moved sometimes to these excursions in great state, often bearing a hawk on his hand, to let fly at any game that might be raised; which was usually Pheasants, Partridges, Quails, or Cranes. In 1269, Marco Paulo witnessed this diversion of the emperor, which probably had existed for many ages previous. The Falconers distinguished these birds of sport into two classes, namely, those of falconry properly so called, and those of *hawking*; and in this second and inferior class, were included the Goshawk, the Sparrow-hawk, Buzzard, and Harpy. This species does not soar so high as the longer-winged Hawks, and darts upon its quarry by a side glance, not by a di-

rect descent, like the true Falcon. They were caught in nets baited with live pigeons, and reduced to obedience by the same system of privation and discipline as the Falcon.

A pair of these birds were kept for a long time in a cage by Buffon ; he remarks, that the female was at least a third larger than the male, and the wings, when closed, did not reach within 6 inches of the end of the tail. The male, though smaller, was much more fierce and untamable. They often fought with their claws, but seldom used the bill for any other purpose than tearing their food. If this consisted of birds, they were plucked as neatly as by the hand of the poulterer ; but mice were swallowed whole, and the hair and skin, and other indigestible parts, after the manner of the genus, were discharged from the mouth rolled up in little balls. Its cry was raucous, and terminated by sharp, reiterated, piercing notes, the more disagreeable the oftener they were repeated, and the cage could never be approached without exciting violent gestures and screams. Though of different sexes, and confined to the same cage, they contracted no friendship for each other which might soothe their imprisonment, and finally, to end the dismal picture, the female, in a fit of indiscriminate rage and violence, murdered her mate in the silence of the night, when all the other feathered race were wrapped in repose. Indeed their dispositions are so furious, that a Goshawk, left with any other Falcons, soon effects the destruction of the whole. Their ordinary food is young rabbits, squirrels, mice, moles, young geese, pigeons, and small birds, and, with a cannibal appetite, they sometimes even prey upon the young of their own species. They construct their nests in the highest trees, and lay from 2 to 4 eggs of a bluish-white, marked with lines and spots of brown.

The length of this American kind is, according to Wilson, 21 inches; the male individual in my possession is 25 inches long, and 37 inches in the stretch of the wings. The European is 2 feet (French) for the male, and a 3d, or 8 inches, less (16 inches), for the female. Our bird is therefore much larger, and the wings extend to within 2 inches of the end of the tail; it is likewise *darker* on the head, and has a broad dusky stripe passing from the eye to the back of the head which is pale; the under parts also, to the vent, are not merely barred with a *single* line, but each feather is crossed by *numerous* zig-zag, undulating, dark lines, longitudinally crossed by a central line of the same color, and the vent is also *white*. Wilson's name may therefore be retained for this peculiar American species. The bill is blackish-blue: the cere and legs yellow. Irids orange yellow. The superciliary line very distinct and nearly white, proceeding backwards to meet on the hind-head. Above, the plumage is dark cinereous, tinged with brown; the primaries somewhat lighter. Legs feathered half way down. Tail mottled with about 5 imperfect bands of dark brown, chiefly visible on the inner vanes; the central tail feathers dark grey, with about 4 imperfect, broad, dusky bars.

AMERICAN BROWN OR SLATE-COLORED HAWK.

(*Falco fuscus*, GMELIN. *F. pennsylvanicus*, WILSON, vi. p. 13. pl. 46. fig. 1. [adult male], and *F. velox*, (Sharp-shinned Hawk), *IBID.* v. p. 116. pl. 45. fig. 1. [young female]. BONAP. Ann. Lyc. vol. ii. p. 434.)

SPEC. CHARACT. — Tail even, with 4 blackish bands, and tipped with white; wings extending to the 2d band; 2d primary much shorter than the 6th; and the 3d than the 5th. Length about 12 inches. — *Adult*, dark slate-color, beneath white, broadly barred with ferruginous. — *Young*, dark brown, skirted with ferruginous; beneath white, with narrow, oblong, ferruginous spots.

THIS bold and daring species possesses all the courageous habits and temerity of the true Falcon; and, if the princely amusement to which these birds were devoted, were now in existence, few species of the genus

would be found more sanguinary and pugnacious than the present. The young bird is described by Pennant under the name of the dubious Falcon, and he remarks its affinity to the European Sparrow-Hawk. It is, however, somewhat less, differently marked on the head, and much more broadly and faintly barred below. The nest of our species is yet unknown. It probably, like its European prototype, builds in hollow trees, or conceals its eyry among rocks. The true Sparrow-Hawk shows considerable docility, is easily trained to hunt Partridges and Quails; and makes great destruction among Pigeons, young poultry, and small birds of all kinds. In the winter they migrate from Europe into Barbary and Greece, and are seen in great numbers out at sea, making such havock among the birds of passage they happen to meet in their way, that the sailors in the Mediterranean call them *Corsairs*. Wilson observed the female of our species descend upon its prey with great velocity in a sort of zig-zag pounce, after the manner of the Goshawk. Descending furiously and blindly upon its quarry, a young Hawk of this species broke through the glass of the green-house, at the Cambridge Botanic Garden; and fearlessly passing through a second glass partition, he was only brought up by the third, and caught, though little stunned by the effort. His wing-feathers were much torn by the glass, and his flight in this way so impeded as to allow of his being approached. This species feeds principally upon mice, lizards, small birds, and sometimes even squirrels. In the thinly settled states of Georgia and Alabama, this Hawk seems to abound, and proves extremely destructive to young chickens, a single bird having been known regularly to come every day until he had carried away between 20 and 30. At noon-day, while I was conversing with a planter, one of these Hawks

came down, and without any ceremony, or heeding the loud cries of the house-wife, who most reluctantly witnessed the robbery, snatched away a chicken directly before us. At another time, near Tuscaloosa, in Alabama, I observed a pair of these birds furiously attack the large Red-tailed Hawk, squalling very loudly, and striking him on the head until they had entirely chased him out of sight. This enmity appeared to arise from a suspicion, that the Buzzard was prowling round the farm-house for the poultry, which these Hawks seemed to claim as their exclusive perquisite. As this was, however, the 13th of February, these insulting marauders might possibly be already preparing to breed, and thus be incited to drive away every suspicious intruder approaching their nest. In fine weather, I have observed this species soar to a great elevation, and ascend above the clouds; in this exercise, as usual, the wings seem but little exercised, the ascent being made in a sort of swimming gyration, though while near the surface of the earth the motion of the wings in this bird is rapid and continuous.

The *male* of this species is 12 inches long, and 21 inches in extent, (the *female* 14 inches long, and 25 in stretch of the wings.) The bill is bluish-black. Cere greenish-yellow. Eye-brows strongly projecting. The iris reddish orange. The upper parts of a deep slate-blue, the feathers shafted with black. Primaries brownish-black, barred with dusky; lining of the wing crowded with heart-shaped black spots. Tail 3 inches longer than the wings, nearly even, ash-colored, crossed with 4 broad bands of black, and tipped with white. Over the eye extends a narrow stripe of dull white. Chin white, mixed with black hairs. Breast, belly, and femorals variegated with broad, transverse, brownish spots. Vent pure white. Legs long, slender, and bright yellow. Claws black, remarkably sharp and large. — In a *young* female which I obtained, of the length of about 14 inches, the feathers of the breast and sides are marked with broadish transverse pale brown bars, which are terminated with pointed oblong spots. This particular stage of plumage appeared to be anterior to the last.

COOPER'S HAWK.

† (*Falco Cooperii*, BONAP. Am. Orn. ii. pl. 10. fig. 1. [young]. Philadelphia Museum, No. 403.)

SPEC. CHARACT. — Tail rounded, with 4 blackish bands, and tipped with white; wings extending, when folded, to the 2d band; 2d quill nearly equal in length to the 6th, and the 3d to the 5th. Length 18 or more inches. — *Young*, dusky-brown, skirted with ferruginous; beneath white, with oblongeolate, dusky brown spots.

THIS fine species of Hawk is found in considerable numbers in the Middle States, particularly New York and New Jersey, in the autumn, and at the approach of winter. His food appears principally to be birds of various kinds; from the Sparrow to the Ruffed Grouse, all contribute to his rapacious appetite. I have also seen this species as far south as the capital of Alabama, and in common with the preceding, his depredations among the domestic fowls are very destructive. Mr. Cooper informs me that the plumage of the adult male bears the same analogy to the adult of *F. fuscus*, as the young of that species does to the present, excepting that the rufous tints are paler. The difference in size between the two is as 2, or even 3, to 1.

The length of this species is about 18 inches; and nearly 30 in alar extent. The general color of the *young* bird above is chocolate-brown, and the head and neck blackish, edged with rufous and white. The body beneath is white, the feathers being marked each with a long, dusky stripe down the shafts, which spots become broader and oblongeolate on the breast and flanks. The vent and lower tail coverts white. The wings about 9 inches long, and when folded, scarcely extend to the 2d bar of the tail; the quills crossed by blackish bands. 1st primary very short, more so than the secondaries; 2d equal to the 6th, and the 3d to the 5th, the 2 last being scarcely shorter than the 4th, which, as in all the birds of this section, is the longest. Tail 8 inches, extending 5 beyond the wings, ashy brown,

tipped with whitish, and crossed by 4 equidistant blackish bands. Legs and feet yellow. The cere greenish-yellow. Iris bright yellow. — *Female*, 2 inches longer, but with similar plumage.

STANLEY'S HAWK.

(*Falco Stanleyi*, NOBIS. *Astur Stanleyi*, AUDUBON, pl. 36.)

SPEC. CHARACT. — Above dusky brown, a little varied with white; beneath cinereous with oblong dusky spots. Tail long and rounded, extending much beyond the wings, with 5 broadish dusky bars; cere and legs pale yellow.

WITH this fine new species of Audubon we are yet unacquainted. It appears, however, nearly allied to *F. Cooperii*, with which it ought to be compared. It is spiritedly represented, with its mate, in the act of pursuing and nearly overtaking a Bluebird.

About 18½ inches long. Wings barred. 1st primary very short as well as the 2d. The 5th longest. — *Male*, with the head marked with dusky white and rufous on each feather. *Female*, with the head dusky. Beneath cinereous, with oblong dusky brown spots; femorals rufous-white, with oblong, pointed spots.

Subgenus. — ICTINIA. (*Viellot. Bonap.*)

Bill short, narrowed above; the upper mandible angularly lobed; the lower distinctly notched; cere glabrous; nostrils rounded. Tarsi short, slender, scutellated (or covered in front with a row of broad scales) feathered for a short space; the outer toe connected at base by a membrane. The nails short and not very acute. — Wings very long, extending to the end of the tail. 3d primary longest. Tail nearly even.

Bold species; feeding on small birds, reptiles, &c., but chiefly on insects. They fly out in easy sailing circles at a considerable elevation. — NOTE. The birds of this section appear to be intermediate between the Falcons and true Kites, and in manners they are somewhat related to the Buzzards.

MISSISSIPPI KITE.

(*Falco plumbeus*, GMELIN. BONAP. Annal. Lyc. p. 30. *Falco Mississippiensis*, WILSON. Am. Orn. iii. p. 80. pl. 25. fig. 1. [adult male].)

SPEC. CHARACT.—Blackish-ash; head, neck, and beneath whitish-ash color; the tail and cere black; feet and irids bright red.—*Young*, bluish-black; head and beneath whitish, spotted with bluish-brown; the tail with 3 white bands beneath; the cere yellowish.

THIS remarkably long-winged and beautiful Hawk does not appear to extend its migrations far within the United States. Wilson observed it rather plentiful about, and below Natchez, in the summer season, sailing in easy circles, sometimes at a great elevation, so as to keep company occasionally with the Turkey-Buzzards in the most elevated regions of the air: at other times they were seen among the lofty forest trees, like Swallows sweeping along, and collecting the locusts (*Cicadæ*) which swarmed at this season. My friend Mr. Say observed this species pretty far up the Mississippi, at one of Major Long's cantonments. But, except on the banks of this great river, they are rarely seen even in the most southern states. Their food, no doubt, abounds more along the immense valley of the Mississippi than in the interior regions, and, besides large insects, probably often consists of small birds, lizards, snakes, and other reptiles, which swarm in these their favorite resorts. On the failure of their food, they migrate by degrees into the Mexican and South-American provinces; and were observed by De Azara in Guiana, about the latitude of 7 degrees. Of the nest, and other habits of this uncommon bird, we are yet entirely ignorant. It is very probable, that like the Kite it builds in lofty trees. From the very narrow limits within which this bird inhabits

in the United States, it is more than probable, that the principal part of the species are constant residents in the warmer parts of the American continent.

In length this species is 14 inches, and 36 in the stretch of the wings. (The European Kite is 24 inches to 60 or upwards in alar extent, which is nearly the same proportion.) The bill, cere, lores, and narrow line round the eye are black. Wings very long and pointed, the 3d quill longest; the primaries black, marked down each side of the shaft with reddish sorrel, and their coverts slightly touched with the same. All the upper plumage at the roots white; the scapulars are also spotted with white beneath. Tail slightly forked, and, as well as the rump, black.

Subgenus. — ELANUS. (*Cuvier. Bonap.*)

Bill moderately strong, compressed and rounded above; the mouth cleft beyond the eyes; the lobe of the upper mandible obtuse; cere villous; nostrils oval. — Tarsi short, thick, *reticulated* (or with the scales scattered) in front, feathered half way down; toes *cleft to the base*; the nails large and acute, the outer very small. Wings very long; the 1st and 3d primaries nearly equal; the 1st and 2d strongly indented on the inner web; the 2d longest.

These are timorous birds with a comparatively small and weak bill; they excel in flight, describing graceful circles in the air; yet they seldom attack their prey flying, but dart upon it when at rest. They feed on small birds, insects, more particularly reptiles, and occasionally devour dead animals.

WHITE-TAILED HAWK.

† (*Falco dispar*, TEMM. BONAP. Am. Orn. ii. p. 18. pl. 11. fig. 2. [adult female].)

SPEC. CHARACT. — Bluish-grey, beneath white; wing-coverts black; tail even, outer feathers *shortest*.

THIS beautiful Hawk, scarcely distinguishable from a second, African species of this section, chiefly inhabits

the continent of South America, as far as Paraguay. In the United States it is only seen occasionally in the peninsula of East Florida, confining its visits to the southern extremity of the Union. It appears to be very shy and difficult of approach, flying in easy circles at a moderate elevation, or at times seated on the deadened branches of the majestic live-oak, it attentively watches the borders of the salt marshes and watery situations for the field-mice of that country, or unwary Sparrows, that approach its perch. The bird of Africa and India is said to utter a sharp and piercing cry, which is often repeated, while he moves in the air. They build in the forks of trees, a broad and shallow nest, lined internally with moss and feathers. The eggs are 4 or 5.

The *female* of this species is about $16\frac{1}{2}$ inches long, and 3 feet $5\frac{1}{2}$ inches in alar extent. Sides of the head, neck, and body, and all beneath white. Head pearl-grey, becoming gradually darker towards the neck and back, from the front, which is white. Above bluish ash; smaller and middle wing-coverts black; primaries slate color. 1st primary a little shorter than the 3d; the 2d longest. The closed wings attain within an inch to the tip of the tail; the latter being 7 inches long, slightly notched, and with the outer feather more than half an inch shorter than the adjoining one; the middle feathers pale bluish-slate, all the rest pure white. Legs and feet orange-yellow; tarsus covered with small reticulated scales; toes all separated to the base; the nails, except the middle one, rounded beneath. Bill black; cere orange-yellow and bristly. Iris brownish red. — The *male*, smaller and somewhat darker, tinged with ferruginous.



SWALLOW-TAILED HAWK.

(*Falco furcatus*, LIN. AUDUBON, pl. 72. [descending with a snake in his talons.] WILSON, Am. Orn. vi. p. 70. pl. 51. fig. 2. [adult male]. Philad. Museum, No. 142.)

SPEC. CHARACT.— White; back, wings, and tail black, with greenish and purple reflections; tail deeply forked.

THIS beautiful Kite breeds and passes the summer in the warmer parts of the United States, and is also probably resident in all tropical and temperate America, migrating into the southern as well as the northern hemisphere. In the former, according to Viellot, it is found in Peru, and as far as Buenos Ayres; and though it is extremely rare to meet with this species as far as the latitude of 40 degrees in the Atlantic states; yet, tempt-

ed by the abundance of the fruitful valley of the Mississippi, individuals have been seen along that river as far as the Falls of St. Anthony, in the 44th degree of north latitude. Indeed, according to Fleming, two stragglers have even found their devious way to the strange climate of Great Britain.

They appear in the United States about the close of April or beginning of May, and are very numerous in the Mississippi territory, 20 or 30 being sometimes visible at the same time, often collecting locusts and other large insects, which they are said to feed on from their claws while flying; at times also seizing upon the nests of locusts and wasps, and like the Honey-Buzzard, devouring both the insects and their larvæ. Snakes and lizards are their common food in all parts of America. In the month of October they begin to retire to the south, at which season Mr. Bartram observed them in great numbers assembled in Florida, soaring steadily at great elevations for several days in succession, and slowly passing towards their winter-quarters along the Gulf of Mexico.

In length this species is about 2 feet; and 4 feet 6 inches in the stretch of the wings. (The true Kite is 2 feet by upwards of 5 feet stretch.) The bill is black; the cere yellow, as well as the legs. Iris orange-red. The head and neck white; beneath also white. Upper parts black, glossed with green and purple. Wings reaching within 2 inches of the tip of the tail. Tail very long, and remarkably forked, of 12 feathers. Several of the tertial feathers white, or edged with that color; lining of the wings white. — The plumage of the *male* and *female* very similar.

Subgenus. — BUTEO (*Buzzards.*)

Bill short, suddenly curving from its base, and much hooked; lobe blunt; the sides of the lower mandible bent inwards. Head rather large, with the neck thick and short; the body also rather stout. — Tarsus short and thick, scutellated, partially or wholly feathered; outer toes connected at base by a membrane; nails rather weak, those of the inner and hind toe largest. Wings usually long, with the 4 first primaries indented on the inner web; the 1st very short, and the 4th longest.

Female, larger, but similar in color. The *young* very different. By their heavy flight, inferior boldness, and massive form, they often appear to make an approach towards the owls; in captivity indeed they habitually hide themselves, and appear dastardly. They feed on young rabbits, squirrels, mice, rats, moles, snakes, frogs, large insects, and small birds, which they commonly watch for while perched.

§ 1. *With the tarsi feathered to the toes.*

ROUGH-LEGGED FALCON.

† (*Falco lagopus*, LIN. WILSON. Am. Orn. iv. p. 59. pl. 33. fig. 1. [male.])

SPEC. CHARACT. — Varied with dark brown and ferruginous; a blackish brown belt on the belly; tail white, dark brown towards the extremity, terminated by a dull white edging. — *Female*, generally lighter, though more brown along the sides and belly. — *Young*, the belt only indicated by large brown spots at the sides, with the feathers of the thighs transversely barred; the tail with 3 bands towards its extremity; and with the iris of a brownish yellow.

THIS remarkable species of Buzzard appears to take up its residence chiefly in the northern wilds of America, where probably it builds in large trees, as it is known to do in Europe. It is said to lay 4 eggs, clouded with reddish. It is common also to the north of Europe, if not to Africa. Its usual station is on the outskirts of

woods, in the neighbourhood of marshes ; situations suited for supplying it with its usual humble prey of frogs, mice, reptiles, and straggling birds, for which it patiently watches for hours together, from day-break to late twilight. When his prey is perceived, he takes a cautious, slow, circuitous course near the surface, and sweeping over the spot where the object of pursuit is lurking, he instantly grapples it, and flies off to consume it at leisure. The inclement winters of the high northern regions, where they are usually bred, failing to afford them food, they are under the necessity of making a slow migration towards those countries which are less severe. According to Wilson, no less than from 20 to 30 individuals of this species continued regularly to take up their winter-quarters in the low meadows below Philadelphia. They are never observed to soar, and, when disturbed, utter a loud, squealing note, and only pass from one neighbouring tree to another. In the course of the winter they proceed into Maryland, and probably further south. In Europe they seldom migrate so far to the south as Holland.

The length of this species is (in the *male*) about 19 to 20 inches ; in the *female*, 2 feet 2 or 3 inches (Wilson's measurement of 22 inches can only belong to the following species.) Cere and feet yellow. Bill blackish. Iris yellow. Upper part of the head pale ochreous, streaked with brown. Back and wings dark brown and ferruginous ; first 4 primaries nearly black about the tips ; rest of the quills dark brown, with the lower side and inner vanes white ; tail coverts white. Body beneath pale ochreous, spotted and striped with blackish brown.

BLACK HAWK.

(*Falco sancti-johannis*, GMELIN. BONAP. *F. niger*, WILSON. Am. Orn. vi. p. 82. pl. 53. fig. 1. [adult,] and fig. 2. [the young.] Philad. Museum, 404, 405.)

SPEC. CHARACT. — Black; front and line round the eye white; tail rounded, crossed with 5 bands of white, and terminated with dull white. — *Young*, according to age, varied with white, brown, blackish, and ferruginous; at first palish brown? Tail half way white, with 1 or 2 external dusky bars and a broad subterminal band of black; — the feathers sometimes merely blotched with black and white on their inner vanes.

THIS somewhat rapacious and sombre-colored species chiefly inhabits the northern parts of America, particularly Hudson's Bay and Newfoundland, from whence it sallies, at the approach of winter. It appears, occasionally at such seasons, in this part of Massachusetts, sailing over the wet meadows, at a low elevation, in search of mice, moles, and frogs, and is very shy and transitory in its visits. Like the other birds of this natural section, it watches for its prey while seated on the dead limb of a tree, or on a ledge of rock, from whence, according to Pennant, it is in the habit of watching the Ducks, and striking them as they rise. I have seen them soaring and traversing the marshes about Reedy Island in the Delaware, probably in the same pursuit, though sometimes contenting themselves with crabs and shellfish when nothing better offered.

This species seems to present a great diversity in its plumage. In Pennant's figure the tail is broadly barred with white, and the upper parts are varied with black and dull white, with indications of transverse bars on the femorals. In length it is from 21 to 22 inches; and 4 feet 2 inches in the stretch of the wings. The bill blackish. Cere, sides of the mouth, and feet yellow. Eye large, with the iris bright hazel. General color above brown black with lighter shades. Nape of the neck white below the surface. Lower parts black with slight shades of brown. The wings extend a little beyond the tip of the tail. The 5 first primaries are white on their inner vanes. Tail rounded, deep black, crossed with 5 *narrow* bands of white, and broadly tipped with dull white; the vent black, spotted with white. Toes very short.

§ 2. *With the tarsi partly feathered.*

SHORT-WINGED BUZZARD.

(*Falco* * *Buteoides*. NOBIS. *F. Buteo*, PENNANT. not of LIN. Arctic Zool. vol. i. p. 241.)

SPEC. CHARACT.— Dusky brown ; beneath yellowish-white with oblanceolate dusky spots ; wings not extending to the end of the tail ; tail dusky with about 9 bars and tipped with dull white ; cere and legs yellow. — *Male*, darker, with hastate spots on the femorals, and the external feathers of the tail wholly dusky, the under ones barred only on their inner vanes ; also more inclined to ferruginous beneath, and with the throat scarcely spotted. — *Female*, 4 inches longer, lighter, with the tail distinctly barred, and the femorals scarcely spotted.

THIS large American Buzzard is not uncommon in this vicinity, but more abundant towards winter. He appears to have very much the manners of the European Buzzard, remaining inactive for hours together on the edges of wet meadows, perched upon the larger limbs of trees, and at times keeping up a regular quailing and rather hoarse *keigh-oo keigh-oo*, which, at intervals, is answered by his mate. When approached he commonly steals off to some other tree at no great distance from the first, but if the pursuit be continued, he flies out and hovers at a considerable height. His prey is probably mice, frogs, and reptiles ; and in New York he possesses, according to Pennant, the name of the Great Hen-Hawk, from his occasional depredations on the poultry, a fault with which he is seldom charged here. Pennant also adds, that it continues in that state the whole year, and lays 5 eggs in the month of May. It is also an inhabitant of Hudson's Bay and Newfoundland. The true Buzzard is said to be of a cowardly and indolent disposition ; constructing, in old oaks and birch-trees, a nest of small branches, or taking possession of one deserted by the Crows, and lining it with wool and other soft substances,

in which it lays only 2 or 3 whitish eggs, waved with greenish, and spotted with yellowish. But, if deficient in courage, it is not so in natural affection, feeding and tending its young with much assiduity; and even the male, according to Ray, on the death of the female, patiently feeds and rears the brood till able to provide for themselves.

According to Buffon, a Mr. Fontaine succeeded in taming and domesticating a Buzzard, so completely that he exhibited a real attachment to his master, attended at the dinner-table, caressing with his head and bill. He managed to conquer the dogs and cats of the house, seizing the food from them when there were several together; and, as a last resort, when hard pushed by his assailants, took wing with a tone of exultation. He had also a singular antipathy to red caps, which he dexterously snatched from the heads of the working peasantry without being perceived; he likewise purloined wigs in the same manner, and after carrying this strange booty to the tallest tree of an adjoining park, he left them there without injury. Although he sometimes attacked the neighbouring poultry, he lived on amicable terms with those of his master, bathing even among the chickens and ducklings without offering them the least injury.

The length of this species, according to Pennant, is 26 inches. This must doubtless be the *female*, which I have found about 25 inches; the *male* is only 20 inches. The bill is dusky, and the cere yellow. The head and hind part of the neck is brown, broadly edged with white, or brownish white. The back, scapulars, and wing-coverts dark brown edged with ferruginous; the rump brown, but the immediate tail coverts as well as the scapulars are barred with white below the surface. The 3 first primaries black, white at their bases and notched on their inner vanes; the 3d primary a very little *longer than the 4th*; the inner vanes of all the rest of the quills barred but not to their edges, the intervening white bars above strongly tinged with ferruginous. Throat, breast, and belly, ferru-

ginous white, marked rather thinly with oblong or oblongeolate brown spots; belly nearly spotless, the vent wholly so; femorals ferruginous-white with hastate transverse, and some terminal pointed bars. Legs short, strong, and yellow. Irids dark brown. — NOTE. In my larger specimen (or the *female*), the lower part of the breast, approaching the belly, is marked with a few large roundish dark spots; the whole under side is nearly white, with the spots fewer and larger; the chin is also thickly spotted, which is not so in the *male*; the femorals are likewise covered with long thin feathers almost entirely spotless; the bars on the quills are less prominent, and the tail distinctly barred on both sides; no bars appearing on the upper side of the tail in the *male*. The 4 first primaries notched on their inner vanes, and the 4th primary longest!

RED-TAILED HAWK OR BUZZARD.

(*Falco borealis*, Gmel. AUDUBON, pl. 51. WILSON, Am. Orn. vi. p. 75. pl. 52. fig. 1. [adult] and American Buzzard, *F. leverianus*, IBID. vi. p. 78. pl. 52. fig. 2. [young].)

SPEC. CHARACT. — Dusky brown; beneath whitish with dark hastate spots; wings considerably shorter than the tail. — *Female* very similar to the male. In the adult the tail is ferruginous, with a blackish subterminal band. — *Young*, with the tail pale dusky brown, crossed by 9 or 10 narrow blackish bands.

THIS beautiful Buzzard inhabits most parts of the United States, being observed from Canada to Florida; also, far westward up the Missouri, and even on the coasts of the northern Pacific Ocean, by Lewis and Clarke.* Wilson found the young to be fully grown in the month of May, about latitude 31 degrees on the banks of the Mississippi; at this period they were very noisy and clamorous, keeping up an incessant squealing. They also occasionally nest and breed in large trees in the secluded forests of this part of Massachusetts. The young birds soon become very submissive, and allow

* Vol. ii. page 88.

themselves to be handled with impunity by those who feed them. The older birds sometimes contest with each other in the air about their prey, and nearly or wholly descend to the earth grappled in each others talons. Though this species has the general aspect of the Buzzard, its manners are very similar to those of the Goshawk ; it is equally fierce and predatory, prowling around the farm often when straitened for food, and seizing, now and then, a hen or chicken, which it snatches by making a lateral approach ; it sweeps along near the surface of the ground, and grasping his prey in his talons, bears it away to devour in some place of security. These depredations on the farm-yard happen, however, only in the winter ; at all other seasons this is one of the shyest and most difficult birds to approach. They will at times pounce upon rabbits, and considerable sized birds, particularly Larks, and have been observed in the southern states perseveringly to pursue squirrels from bough to bough until they are overtaken and seized in their talons. They are frequently seen near wet meadows where mice, moles, and frogs are prevalent ; and also feed upon lizards, appearing indeed, often content with the most humble game.

They usually associate in pairs, and seem much attached to each other ; yet they often find it convenient and profitable to separate in hunting their prey, about which they would readily quarrel, if brought into contact. Though a good deal of their time passes in indolence, while perched in some tall and deadened tree, yet at others they may be seen beating the ground as they fly over it in all directions in quest of game. On some occasions they amuse themselves by ascending to a vast elevation like the aspiring Eagle. On a fine evening, about the middle of January, in South Carolina, I observed one of these birds leave his withered perch,

and soaring aloft over the wild landscape, in a mood of contemplation, begin to ascend towards the thin skirting of elevated clouds above him. At length he passed this sublime boundary, and was now perceived and soon followed by his ambitious mate, and in a little time, by circular ascending gyrations, they both disappeared in the clear azure of the heavens ; and though I waited for their re-appearance half an hour, they still continued to be wholly invisible. This amusement, or predilection for the cooler regions of the atmosphere, seems more or less common to all the rapacious birds. In numerous instances this exercise must be wholly independent of the inclination for surveying their prey, as few of them beside the Falcon descend direct upon their quarry. Many, as well as the present species, when on the prowl, fly near to the surface of the ground, and often wait and watch so as to steal upon their victims before they can take the alarm. Indeed the Condor frequents and nests upon the summits of the Andes, above which they are seen to soar in the boundless ocean of space, enjoying the invigorating and rarefied atmosphere, and only descending to the plains when impelled by the cravings of hunger.

The Red-tailed Hawk is 20 to 22 inches in length, and 3 feet 9 or more inches in the stretch of the expanded wings. The bill greyish black ; cere, sides of the mouth, and legs yellow. Upper parts dark brown, touched with ferruginous. Wings dusky, barred with blackish, scapulars barred beneath the surface. Sides of the tail coverts white, barred with rusty, the middle ones dark. Tail rounded, extending 2 inches beyond the wings, of a bright brown or brick color, with a single band of black near the end, and tipped with brownish white ; on some of the lateral feathers indications of bars. Beneath brownish white, the breast somewhat rust-colored, streaked with dark brown ; across the belly a band of interrupted spots of brown. Chin white ; vent and femorals pale ochreous, the latter with a few small heart-shaped spots of brown. Iris yellow.

BLACK BUZZARD.

(*Falco Harlani*, AUDUBON, pl. 80. [male and female].)

SPEC. CHARACT. — Purplish-black with some brown; the tail longer than the wings, with 7 or 8 black bands; cere and legs yellow; beneath purple with oblong black spots; the femorals with hastate ones.

THIS fine species was discovered by the author during his last excursion in the mountains of Pennsylvania, and is, I believe, at times also seen in this vicinity.

About the size of the Red-tailed Buzzard. Cere yellowish-green. Legs pale yellow. The wings a few inches shorter than the tail. 1st primary rather short, 4th longest.

BROAD-WINGED HAWK.

(*Falco pennsylvanicus*, AUDUBON, pl. [male and female.] WILSON. Am. Orn. vi. p. 92. pl. 54. fig. 1. [male.] BONAP. An. Lyc. 2. p. 29. Philad. Museum, No. 407.)

SPEC. CHARACT. — Dark brown; head streaked with whitish; beneath white, thickly spotted on the breast with brownish sagittate spots; tail short, black, with 2 bars of white and tipped with whitish, cere and feet yellow. — *Young*. Tail indistinctly banded with black and dusky; lower parts pure white, with rare blackish oblong spots.

THIS very rare species was obtained by Wilson, in the vicinity of Philadelphia, in the act of feeding on a meadow mouse. On being approached, it uttered a whining whistle, and flew to another tree where it was shot. Its great breadth of wing, as well as of the head and body, compared with its length, appears remarkably characteristic. The following day the mate was observed sailing in wide circles, the wings scarcely moving, and presenting almost a semicircular outline. These 2 individuals

appear to be all that were known to Wilson of this species.

The *Buzzardet*, of Pennant, No. 109, vol. i. p. 245, described from a specimen in the Leverian Museum, is doubtless this species.

The length of this specimen (a *male*) was 14 inches (according to Pennant, 15 inches), extent 33. Bill black, bluish near the base, slightly toothed; cere and corners of the mouth yellow. Irids amber color. Frontlet and lores white. From the mouth backwards runs a patch of blackish brown. Upper parts dark brown, beneath the surface spotted and barred with white. Head large, broad, and flat, streaked with whitish. Tail short, the exterior and interior feathers somewhat shorter; tail coverts spotted with white. Wings dusky brown, obscurely barred with black; most of the inner vanes partly white; lining of the wing brownish-white, marked with small arrow-heads of brown. Chin white, surrounded with streaks of black. Belly and vent, like the breast, white, but more thinly marked with pointed spots of brown. Femorals pale brownish white, thickly marked with small touches of brown and white. Legs stout; feet coarsely scaled, both of a dirty orange yellow. — *Female*, much larger, lighter colored over the eye, being rufous-white with minute spots; femorals and beneath the wing marked with cordate spots. Beneath rufous-white with oblong dusky-brown spots. Belly and rump the same color, but spotless.

WINTER FALCON, OR RED-SHOULDERED HAWK.

(*Falco hyemalis*, GMEL. AUDUBON, pl. 71. WILSON, Am. Orn. iv. p. 73. pl. 35. fig. 1. [adult male] and Red-shouldered Hawk? *F. lineatus*, ID. 6. p. 86. pl. 53. fig. 3. [young male.] AUDUBON, pl. Philad. Museum, 205, 272, and 273.)

SPEC. CHARACT. — Brownish, varied with white and ferruginous; tail always banded, extending considerably beyond the closed wings. — *Adult*, brown; beneath, head, neck, and tail coverts white, spotted longitudinally with brown; tail with 8 or 9 bands of dark and light brown. — *Young*, brown and ferruginous, beneath rusty, slightly varied with faint bars; wings dusky and barred; tail black, crossed and tipped with 5 *bands* of white,

THIS very elegant Hawk does not probably migrate or inhabit very far to the north. They are never seen, I believe, in Massachusetts, nor perhaps much further than the state of New York. In the southern states, during winter, they are very common in swampy situations, where their quailing cry of mutual recognition may be heard from the depths of the dark forest, almost every morning of the season. This plaintive echoing note resembles somewhat the garrulous complaint of the Jay, *keé-oó, keé-oó, keé-oó*, continued with but little intermission sometimes for near 20 minutes; at length, it becomes loud and impatient, but on being distantly answered by the mate, the sound softens and becomes plaintive like *kēé-oo*. This morning call is uttered most loudly and incessantly by the male, inquiring for his adventurous mate whom the uncertain result of the chase has perhaps separated from him for the night. As this species is noways shy, and very easily approached, I have had the opportunity of studying it closely. At length, but in no haste, I observed the female approach and take her station on the same lofty, decayed limb with her companion, who, grateful for this attention, plumed the feathers of his mate with all the assiduous fondness of a dove. Intent upon her meal, however, she soon flew off to a distance, while the male still remained on his perch dressing up his beautiful feathers for near half an hour, often shaking his tail, like some of the lesser birds, and occasionally taking an indifferent survey of the hosts of small chirping birds which surrounded him, who followed without alarm their occupation of gleaning seeds and berries for subsistence. This Hawk, indeed, lives principally upon frogs, and probably insects and Cray-fish in the winter. In this pursuit I have occasionally observed them perched on low bushes

and stakes in the rice-fields, remaining thus for half an hour at a time, and then darting after their prey as it comes in sight. I saw one descend upon a Plover, as I thought, and Wilson remarks their living on these birds, Larks, and Sandpipers. The same pair that I watched also hung on the rear of a flock of Cow-buntings which were feeding and scratching around them. It is possible that they sometimes attack squirrels, as I have been informed; and Wilson charges them with preying also upon Ducks.

I never observed them to soar, at least in winter, their time being passed very much in indolence, and in watching their ignoble game. Their flight is almost as easy and noiseless as that of the owl. In the early part of the month of March they were breeding in West Florida, and seemed to choose the densest thickets, and not to build at any great height from the ground. On approaching these places, the *keé-oó* became very loud and angry.

All the individuals I have seen in the southern states, some scores, agreed so nearly with Wilson's and Pennant's Red-shouldered Hawk, that I can scarcely avoid the conclusion, that this is the state of the adult plumage; if, indeed, the Winter Hawk is at all identic with ours, the very *different number of bars in the tail* of the two birds is sufficiently remarkable. The male Red-shouldered species, according to Wilson, is 19 inches in length; that of Pennant was 22 inches, having *seven* bands, however, on the tail; this must have been a female, which differs from the other sex chiefly in the colors, which are less dark and pure. Bill blackish. Cere and legs yellow. The head and back are brownish and rusty. The greater wing-covers and secondaries pale olive-brown, thickly spotted with white and yellowish white. Primaries nearly black, barred with white. Tail black, rounded, extending about $1\frac{1}{2}$ inches beyond the wings, crossed by 5 bands of white, and broadly tipped with the same. Beneath bright rusty, with indistinct darker *transverse* bands (the disposition of which, being contrary to that of the spots of the Winter Hawk, are in the order usually occurring in old birds rather

than in the young); the dark shafts of some of these feathers also present partly the narrow oblong spots of the Winter Hawk. Vent pale ochreous. Legs long, and feathered a little below the knees; femorals pale rusty, and barred faintly with a darker tint. Iris reddish-hazel.

In the *Winter Hawk*, the head, neck, throat, breast, and belly are white, each feather having a narrow dark-brown, oblong, pencil-like spot. The lesser coverts of the wings more strongly ferruginous; secondaries pale brown, faintly barred with darker; the primaries brownish-orange, spotted with black, and wholly so at the tips. Tail barred alternately with dark and pale brown, the inner vanes white, the exterior brownish-orange. Tail coverts white, with heart-shaped spots of brown. Femoral feathers pale ochreous, with slender streaks of pale brown.

Subgenus. — *Circus*. (HARRIERS.)

These are principally distinguished from the Buzzards by having a kind of collar of small rigid feathers surrounding the face, as in Owls. They are, however, bold and active birds, with a graceful flight, but are inferior to the true Falcons, not chasing so well on the wing, and feeding principally on mice, reptiles, fish, young birds, and insects. They pass their time chiefly about marshes and ponds, near which situations, amidst weeds on the ground, or in the woods, they construct their nests. At the pairing season the males pass much of their time in soaring at considerable elevations, and seem to take delight in dwelling in the cooler regions of the air. The female and young differ considerably in color from the male.

HEN-HARRIER, OR MARSH-HAWK.

(*Falco cyaneus*, LIN. *F. uliginosus*, WILSON, Am. Orn. vi. p. 67. pl. 51. fig. 1. [young female], and BONAP. Am. Orn. ii. pl. 11. fig. 1. [adult male.])

SPEC. CHARACT. — With the wings extending to three fourths the length of the tail; the 3d and 4th primaries equal; rump white.

— *Adult male* bluish-grey; inner vanes of the primaries and be-

neath white without spots; the quills black towards the end. — *Female* and *young* dark brown; beneath pale yellowish-brown with dark spots; the wings on the under side banded with black and white; tail, except the 2 middle dusky feathers, barred with blackish and pale brown.

THIS species is common to the northern and temperate, as well as the warmer parts of the old and new continents, being met with in Europe, Africa, South America, and the West Indies. In the winter season it extends its peregrinations from Hudson's Bay to the southern parts of the United States, frequenting chiefly open, low, and marshy situations, over which it sweeps or skims along, at a little distance usually from the ground, in quest of mice, small birds, frogs, lizards, and other reptiles, which it often selects by twilight, as well as in the open day; and at times, pressed by hunger, it joins the Owls, and seeks out its prey even by moonlight. Their propensity for marsh birds renders them very serviceable to the rice plantations of the southern states, over which they frequently hover, and thin and rout the destructive ranks of the Rice Buntings while feeding among this grain. Instances have been known in England, in which this bird has carried his temerity so far as to pursue the same game with the armed fowler, and even snatch it from his grasp, after calmly waiting for it to be shot, and without even betraying timidity at the report of the gun. The nest of this species is made on the ground, in swampy woods, or among rushes, occasionally also under the protection of rocky precipices; and is formed of sticks, reeds, leaves, straw, and similar materials heaped together, and finished with a lining of feathers, hair, or other soft substances. The eggs are 4 or 5, of a dirty bluish white and without spots. In the *F. cineraceus*, so nearly related to this species, the eggs are of a pure white. When their young are approached,

the parents, hovering round the intruder, and uttering a sort of uncouth syllable, like *geg geg gag*, or *ge ge ne ge ge*, seem full of afright and anxiety. The Crows, however, are their greatest enemies, and they often succeed in demolishing their nests.

In the old male the upper parts are of a bluish grey. The quill-feathers are white at their origin, and black the rest of their length; the internal part of the base of the wings, rump, belly, sides, thighs, abdomen, and beneath the tail is white and without spots. Upper part of the tail of a cinereous grey, with the ends of the feathers whitish. Iris and feet yellow. The length 20 to 21 inches. — The *old female* is dirty brown above, with the feathers of the head, neck, and upper part of the back, bordered with rusty. Beneath rusty-yellow, with large longitudinal brown spots. The quills banded exteriorly with dark brown and black, but interiorly with white and black. Rump white, with rusty spots. The 2 middle tail feathers banded with blackish, and very dark grey; the lateral feathers banded with yellowish red, and blackish. The length 1 or 2 inches greater than in the male — The *young* very similar to the adult female.

NOCTURNAL BIRDS OF PREY, OR OWLS.

THESE, in the order of nature, appear to occupy among the birds, the same situation as the Feline tribe among the mammalia. Like cats, which they externally resemble in the face, many of them are only able to hunt their prey in the evening or morning twilight, or aided by the uncertain light of the moon. There are a few of the species who are qualified to endure the light of day, pursuing their prey on the wing, or laying wait for it in the thickest parts of the forest; these species may be known by the absence of the ear-like tufts of feathers on their heads, and by the emarginated tail, which, as in most of the Hawks, extends beyond the extremity of the

wings. In the other species (either with or without ear-tufts, and with a short and rounded tail seldom extending beyond the wings,) the pupil of the eye is so large, and admits so many rays, that they are dazzled by the light of day, and endeavour, like cats, to obviate this defect by contracting the pupil into a narrower circle of vision. In consequence of this peculiar organization, they seek, in the day, the retirement of the thickest forest, the crannies of the desolate ruin, or the humble and more natural retreat of a hollow and decaying tree. At times, routed from their refuge, or suddenly surprised by the approach of day, they may be seen dozing on some exposed branch or trunk of a tree. On such occasions, cries and insult are poured upon the nocturnal depredator from most of the neighbouring birds who make the discovery,* and detest the feline prowler; the Jay and Titmouse, themselves plunderers, are often the most ready to assail the bewildered Owl with scolding invective; but the lesser birds, full of sympathy for their mates and young, seem only employed in extenuating the cry of alarm. The purblindness of these nocturnal birds arises rather from the delicacy than the defect of the eye; their sense of hearing and its apparatus are also exquisite, perhaps superior to that of any other animal, and sufficient probably to direct them to the slightest motions of their skulking prey; the drum of the ear is proportionally larger than in the quadrupeds, and the ear itself generally provided with an operculum which can be opened or shut at pleasure. The almost spectral flight of the Owl is rendered thus inaudible and gliding by the downy softness of his feathers, which is perhaps assisted by the recurved barbs that commonly edge the exterior of the

* So constant is this persecution of the Owl by a variety of birds, that advantage is taken of their antipathy, and many are caught by liming the neighbouring twigs,

3 or 4 first quills. Thus provided, like the insidious assassin, with a noiseless and easy approach, sallying out under cover of the approaching shades of night, sacred to repose, he snatches the dormant bird from its perch, and turns the music of the grove into wailing and silence, consonant with his own malignant destiny and boding cries. Like the Hawks, his powerful talons are the arms with which he makes the fatal sweep amongst his prey ; it is only when greatly pressed by hunger that he deigns to feed on dead animals ; and his drink is rarely ever other than the blood of his victims, and their recent juices. The bones, hair, feathers, and hard parts, not digestible in the membranous stomach with which alone he is provided, are brought up, and ejected by the mouth, in the form of pellets or little balls. In anciently settled countries, frugal of labor, they content themselves to nest in old towers and ruins, sometimes in the holes of hollow trees, or the deserted nests of other large birds ; in this country, decayed trees, as well as the fissures of rocks, and retired barns, are chosen for this purpose ; their eggs are from 2 to 6. Their moult takes place only once in the year ; and the striking disparities of plumage which occur among the Hawks, is generally unknown among the Owls. The young, however, before their first moult, have usually a darker face than the adult, thus appearing as it were masked ; but after this period they no longer differ from the old. The species are spread all over the northern and temperate parts of the globe, and some are common even to both hemispheres.

OWLS. (STRIX. LIN.)

IN these birds the BILL is short, compressed, and curved from its origin; the base surrounded by a cere, and covered wholly or in part by bristly feathers. *Head* large and very much feathered; the face surrounded by a sort of rigid plummy collar. NOSTRILS lateral, coming out upon the anterior edge of the cere, rounded, open, and concealed by the incumbent setaceous feathers. *Eyes* very large, directed forwards; the iris brilliant. *Legs* and feet often covered with feathers to the very nails; the toes entirely divided to their base; the exterior toe capable of being brought round. Nails strong, sharp, and very retractile (so as to secure very small prey). Wings somewhat pointed; the 3 first primaries generally provided with loose recurved barbs on their outer edge; the first primary short; the 2d not extending to the extremity of the 3d, which is the longest.

§ 1. *With the bill curved from the base.*

Subgenus. — SURNIA.

With the opening of the ears oval, of moderate size, and without operculum or cover; the disk round the face rather small, not very distinct, and composed of slender feathers. These are somewhat allied to the Hawks.

• † *Head without tufts or feathers.*

Feathered to the claws; outer webs of the primaries not recurved. With the tail extending beyond the wings. The North American species are nearly all diurnal.



HAWK OWL.

(*Strix funerea*, Gm. *S. hudsonia*, WILSON, Am. Orn. vi. p. 64. pl. 50. fig. 6. Philad. Museum, No. 500.)

SPEC. CHARACT.—Blackish-brown, thickly spotted with white; beneath white, barred with brown; tail wedge-shaped, extending far beyond the wings, marked with several narrow whitish bands; feet thickly feathered: the bill yellow. — *Female*, with the tints less clear, and of a little larger size. — *Young*, with the plumage of a rusty brown.

THIS remarkable species, forming a connecting link with the preceding genus of the Hawks, is nearly confined to the arctic wilds of both continents, being frequent

in Siberia and around Hudson's Bay. A few stragglers, now and then, at distant intervals, and in the depths of winter, penetrate on the one side into the northern parts of the United States; and, on the other, they occasionally appear in Germany, and more rarely in France. At Hudson's Bay they are observed flying high, and preying on the White Grouse and other birds, sometimes even attending the hunter like a Falcon, and boldly taking up the wounded game as it flutters on the ground. They are also said to feed on mice and insects, and (according to Meyer) they nest upon trees, laying 2 white eggs.

The length of the *male* of this species is about 15 inches. The bill yellow, varied with black spots, according to the age, and almost hid among the feathers. The iris also bright yellow. Cheeks white; crown and hind-head scattered with round spots of dusky brown; a black band commences behind the eye, extends to the orifice of the ears, and terminates angularly on the sides of the neck. The upper parts variously spotted with dark brown and white. Throat whitish below, white, transversely barred with greyish brown. Tail rounded, near 7 inches long, extending 3 inches beyond the points of the wings, the feathers greyish-brown, crossed by 6 or 7 narrow bars of whitish, and tipped with the same. Feet thickly feathered to the toes; the nails horn-color.

SNOWY OWL.

(*Strix nyctea*, LINN. WILSON, iv. p. 53. pl. 32. fig. 1. [male]. Philad. Museum, No. 458.)

SPEC. CHARACT.—White, more or less spotted and barred with dusky-brown according to sex and age; tail rounded, reaching but little beyond the wings; feet thickly clothed with long feathers; the bill black.

THIS very large, and often snow-white, species of Owl is almost an exclusive inhabitant of the arctic regions of

both continents ; being common in Iceland, the Shetland islands, Kamtschatka, Lapland, and Hudson's Bay. In these dreary wilds, surrounded by an almost perpetual winter, he dwells, breeds, and obtains his subsistence. His white robe renders him scarcely discernible from the overwhelming snows, where he reigns, like the boreal spirit of the storm. His loud, hollow, barking growl, *'whowh, 'whowh, 'whowh, hăh, hăh, hăh, hăh,** and other more dismal cries, sound like the unearthly ban of the infernal Cerberus ; and heard amidst a region of cheerless solitude, his lonely and terrific voice augments rather than relieves the horrors of the scene.

Clothed with a dense coating of feathers, which hide even the nostrils, and leave only the talons exposed, he ventures abroad boldly at all seasons, and like the Hawks seeks his prey by day-light as well as dark, skimming aloft, and reconnoitring his prey, which is commonly the White Grouse or some other birds of the same genus, as well as hares. - On these he darts from above, and rapidly seizes them in his resistless talons. At times he watches for fish, and condescends also to prey upon rats, mice, and even carrion.

It is very rare that this species leaves its dreary domain to penetrate even into the north of Europe. They appear to have a natural aversion to settled countries ; for which reason, perhaps, and the still greater severity of the climate of arctic America, they are frequently known to wander in the winter south through the western thinly settled interior of the United States, as far even as the confines of Florida. They migrate probably by pairs ; and, according to Wilson, two of these birds were so stupid, or dazzled, as to alight on the roof of the court-

* These latter syllables with the usual quivering sound of the Owl.

house in the large town of Cincinnati. In South Carolina, Dr. Garden saw them occasionally, and they were, in this mild region, observed to hide themselves during the day in the Palmetto groves of the sea-coast, and only sallied out towards night in quest of their prey. Their habits, therefore, seem to vary considerably according to circumstances and climate. According to Temminck they nest among the steepest rocks, or upon the old pine trees of the glacial regions, and lay 2 eggs of a pure white. According to Vieillot, they are spotted with black, but these were probably the eggs of the Great Grey Owl (*S. cinerea*), another nocturnal inhabitant of Hudson's Bay.

The length of the female of this species is 2 feet 2 inches or upwards (according to Wilson the male is only 22½ inches), and 4 feet 6 inches in the stretch of the wings. The iris bright yellow. The claws black. The female more spotted than the male; the latter only becoming wholly white by age. The *young*, as they issue from the nest, are covered with a brown down; the first feathers also are of a pale brown.

BURROWING OWL.

+ (*Strix cunicularia*, MOLINA. BONAP. Am. Orn. i. p. 68. pl. 7. fig. 2. Philad. Museum, No. 472.)

SPEC. CHARACT. — Cinnamon-grey spotted with whitish; beneath whitish, spotted with cinnamon-brown; tail even, reaching but little beyond the wings; feet covered with short, scattered bristles.

It is to Mr. Say that we are indebted for the first authentic materials towards establishing the character of this remarkable species of Owl, which was known even to Molina as a resident in Chili, and by Father Feuillée as indigenous to the plains of Peru. In these countries, as well as in St. Domingo, where Vieillot observed it, it

is said to excavate the burrow it inhabits, not only as a nest, but as a retreat and place of refuge in the bosom of the earth, instead of the hollow of a tree or the cranny of a ruin, according to the more usual habits of these nocturnal wanderers; indeed, this species appears to be nearly as diurnal as a Hawk, to which he bears no bad resemblance in the lightness and bareness of his long legs, and the projection of his bill from an unusually small head. With these indications of activity, he really enjoys the light of the full glare of day, and is seen at this time flying about, and searching for his exclusive food of hard-shelled insects. His habits on the plains, at the foot of the Rocky Mountains, where the specimen figured in the splendid work of Prince Charles Bonaparte, was obtained by Mr. Say, are somewhat different in circumstances, from those of the same bird in Chili and the West Indies; for, like almost all the other smaller Owls, he appears to shun the labor of forming an independent dwelling, and takes up his abode in the deserted burrows of the Prairie Marmot, in consequence of which he often appears singularly and amicably associated with this little barking quadruped, whose note even he seems to have acquired, “*'tshéh, 'tshéh, 'tshéh, 'tshéh,*” rather than the more natural howling of his fraternity. Vieillot attributes to him the usual *hoo, hoo, oō, oō, oō*, and brings him round the farm-houses of St. Domingo like other common nocturnal species; but these habits would much better suit the Mottled Owl than the present, and may therefore justly be doubted. Like the other species it lays 2 white and round eggs, and *lines* the nest with moss and dry grass. The burrowing habit, constant in this species, seems not altogether peculiar, as the Aluco Owl, according to Latham, also burrows sometimes like a Rabbit.

The Burrowing Owl is $9\frac{1}{2}$ inches long, and 2 feet in extent. The bill is yellowish horn color. Irids yellow. The breast banded with pale brown. Wings darkish, much spotted and banded with brownish white. The primaries have 5 or 6 bands; the 3d feather longest. Tail slightly rounded, of the color of the primaries, also 5 or 6 banded. Legs long and slender; the feet dusky; the feathers towards the toes degenerating into mere bristles. The nails black and rather small.



††. *With the head furnished with ear-like tufts of feathers.* (Preying only by night.)

MOTTLED AND RED OWL.

† (*Strix asio*, LIN. AUDUBON, pl. 97, [a very natural and beautiful group]. *S. nœvia*, WILSON, iii. p. 16. pl. 19. fig. 1. [adult] and Red Owl. *S. asio*, id. v. p. 83. pl. 42. fig. 1. [young]. Philad. Museum, No. 444, and 423.)

SPEC. CHARACT. — Dark brown, inclining to ferruginous and ash, mottled with black ; wings spotted with white ; beneath whitish, spotted with black and brown ; the tail even, reaching to the tip of the wings ; feet covered with short feathers nearly to the claws. — *Young*, tawny red, with narrow dark spots along the shafts of the feathers. — The *adult*, covered with transverse, minute, zigzag lines and points.

THIS common, small, and handsome species, known as the *Little Screech-Owl*, is probably resident in every part of the United States, and, in fact, inhabits from Greenland to Florida. They appear more abundant in autumn and winter, as at those seasons, their food failing, they are obliged to approach habitations and barns, in which the mice they chiefly prey on now assemble ; they also lay wait for small birds, and feed on beetles, crickets, and other insects. Their nest is usually in the hollow of an old orchard tree, about the months of May or June ; it is lined carelessly with a little hay, leaves, and feathers, and the eggs are commonly 4 to 6, white, and nearly round. Aldrovandus remarks, that the Great Horned Owl provides so plentifully for its young, that a person might obtain some dainties from the nest, and yet leave a sufficiency for the owlets besides ; the same remark may also apply to this species, as in the hollow stump of an apple tree, which contained a brood of these young Owls, were found several Bluebirds, Blackbirds, and Song-Sparrows, intended as a supply of food.

During the day they either retire into hollow trees and unfrequented barns, or hide in the thickest evergreens. At times they are seen abroad by day, and in cloudy weather they wake up from their diurnal slumbers a considerable time before dark. In the day they are always drowsy, or, as if dozing, closing, or scarcely half opening their heavy eyes ; presenting the very picture of sloth and nightly dissipation. When perceived by the smaller

birds, they are at once recognised as their insidious enemies ; and the rareness of their appearance, before the usual-roosting-time of other birds, augments the suspicion they entertain of these feline hunters. From complaints and cries of alarm, the thrush* sometimes threatens blows ; and though evening has perhaps set in, the smaller birds and cackling Robins re-echo their shrill chirpings and complaints throughout an extensive wood, until the nocturnal monster has to seek safety in a distant flight. Their notes are most frequent in the latter end of summer and autumn, crying in a sort of wailing quiver, not very unlike the whining of a puppy dog, *hō, hō hō hō hō hō hō*, proceeding from high and clear to a low guttural shake or trill ; these notes, at little intervals, are answered by some companion, and appear to be chiefly a call of recognition from young of the same brood, or pairs who wish to discover each other after having been separated while dozing in the day. On moonlight evenings this slender wailing is kept up nearly until midnight.

I have had an opportunity of verifying all that Wilson relates of the manners of this species in a Red, or young Owl, taken out of a hollow apple tree, which I kept for some months. A dark closet was his favorite retreat during the day. In the evening he became very lively and restless, gliding across the room in which he was confined, with a side-long, noiseless flight, as if wafted by the air alone ; at times he clung to the wainscot, and, unable to turn, he brought his head round to his back, so as to present, by the aid of his brilliant eyes, a most spectral and unearthly appearance. As the eyes of all the Owls, according to Wilson, are fixed immovably in the socket by means of a many-cleft capsular ligament, this provision for the free versatile motion of the head

* At least Wilson's Thrush, which I have observed in the act.

appears necessary. When approached towards evening, he appeared strongly engaged in reconnoitring the object, blowing with a hissing noise (*shay, shay, shay*), common to other species, and stretching out his neck with a waving, lateral motion, in a threatening attitude, and, on a nearer approach, made a snapping with the bill, produced by striking together both mandibles, as they are equally movable. He was a very expert mouse-catcher, swallowed his prey whole, and then, after some time, ejected from the bill, the bones, skin, and hair, in pellets. He also devoured large flies, which at this time came into the room in great numbers, and even the dry parts of these were also ejected from the stomach without digestion. He never showed any inclination whatever to drink.

The *female* Mottled Owl, or old bird, is 10 to 11 inches long, and 22 or more in extent. The upper parts are dark brown, shaded with paler, and thickly lined and spotted with zigzag points of black and ash. The wings lighter, and spotted with white. Tail mottled with black, brown, and whitish on a dark ground; beneath, grey. Horns or auricular tufts, prominent, each composed of 10 graduated feathers. Face whitish, with small dusky spots, and bounded on either side by a black circle. Breast and belly whitish, variegated with broad lines and zigzag bars of black, with blended touches of brown. The legs feathered nearly to the claws, with hairy down of a pale brown. Vent and under tail coverts nearly white, the latter faintly marked with brown. Iris brilliant yellow. The bill and claws greyish horn color. The *male* is smaller and darker, and the white on the wing-coverts less pure.

Subgenus. — BUBO.

Conch of the ear moderate, oval, with a membranous cover. Feet thickly covered to the claws with short feathers. The disk or rim of feathers round the face not very distinct.

† *With the head furnished with ear-like tufts.*



GREAT HORNED OWL, OR CAT OWL.

† (*Strix virginiana*, GM. WILSON. vi. p. 52. pl. 50. fig. 1. AUDUBON, pl. 61, [unusually dark and large]. Philad. Museum, No. 410.)

SPEC. CHARACT. — Mottled; primaries and tail feathers banded with black and dusky; shell of the ear moderate; wings not extending to the tip of the tail; a very large species.

THIS species, so nearly related to the Great Eared Owl of Europe, is met with occasionally from Hudson's Bay to Florida, and exists even beyond the tropics, being very probably the same bird described by Marcgrave as inhabiting the forests of Brazil. All climates are alike to this Eagle of the night, the king of the nocturnal tribe

of American birds. The aboriginal inhabitants of the country dread his boding howl, dedicating his effigies to their solemnities, and, as if he were their sacred bird of Minerva, forbid the mockery of his ominous, dismal, and almost supernatural cries. His favorite resort, in the dark and impenetrable swampy forests, where he dwells in chosen solitude secure from the approach of every enemy, agrees with the melancholy and sinister traits of his character. To the surrounding feathered race he is the Pluto of the gloomy wilderness, and would scarcely be known out of the dismal shades where he hides, but to his victims, were he as silent as he is solitary. Among the choaking, loud, guttural sounds which he sometimes utters, in the dead of night, and with a suddenness which always alarms, because of his noiseless approach, is the *'waugh hó!* *'waugh hó!* which, Wilson remarks, was often uttered at the instant of sweeping down around his camp fire. Many kinds of owls are similarly dazzled and attracted by fire-lights, and occasionally finding, no doubt, some offal or flesh, thrown out by those who encamp in the wilderness, they come round the nocturnal blaze with other motives than barely those of curiosity. The solitary travellers in these wilds, apparently scanning the sinister motive of his visits, pretend to interpret his address into "*'Who 'cooks for yǒu āll!*" and with a strong guttural pronunciation of the final syllable, to all those who have heard this his common cry, the resemblance of sound is well hit, and instantly recalls the ghastly serenade of his nocturnal majesty in a manner which is not easily forgotten. The shorter cry, which we have mentioned, makes no inconsiderable approach to that uttered by the European brother of our species, as given by Buffon, namely, *'he-hoo, 'hoo-hoo, boo-hoo, &c.* The Greeks called this transatlantic species *Byas*, either

from its note, or from the resemblance this bore to the bellowing of the ox. The Latin name *Bubo* has also reference to the same note of this nocturnal bird. According to Frisch, who kept one of these birds alive, its cries varied according to circumstances ; when hungry it had a muling cry like *Púhů*. I have remarked the young, probably, of our species utter the same low, quailing cry, while yet day-light, as it sat on the low branch of a tree ; the sound of both is, at times, also not unlike that made by the Hawks or diurnal birds of prey. Indeed, in gloomy weather, I have seen our species on the alert, flying about many hours before dark, and uttering his call of 'ko ko, ko kŏ ho. Their usual prey is young rabbits, squirrels, rats, mice, quails, and small birds of various kinds ; and when these resources fail or diminish, they occasionally prowl pretty boldly around the farm-yard in quest of chickens, which they seize on the roost. Indeed the European Horned Owl frequently contends with the Buzzard for his prey, and generally comes off conqueror ; blind and infuriate with hunger, one of these has been known to dart even upon a man, as if for conflict, and was killed in the encounter.* My friend Dr. Boykin, of Milledgeville, in Georgia, assured me that one of our own daring nocturnal adventurers, prowling round his premises, saw a cat dozing on the roof of a smoke-house, and supposing grimalkin a more harmless, rabbit-like animal than appeared in the sequel, blindly snatched her up in his talons ; but finding he had caught a Tartar, it was not long before he allowed puss once more to tread the ground. In England the same error was committed by an Eagle, who, after a severe conflict with a cat he had carried into the air, was at length brought to

* This circumstance happened to a relative of the author's in Lancashire, in whose possession he saw the mounted specimen of the bird.

the ground before he could disengage himself from the feline grasp.*

An Owl of this species, which I have observed in a cage, appeared very brisk late in the morning, hissed and blew when approached with a stick, and dashed at it very heedlessly with his bill; he now and then uttered a 'ko-kóh, and was pretty loud in his call at an earlier hour. When approached, he circularly contracted the iris of the eyes to obtain a clearer view of the threatened object; he also listened with great quickness to any sound which occurred near his prison, and eyed the flying pigeons, which passed by at some distance, with a scrutinizing and eager glance. When fed, he often had the habit of hiding away his superfluous provision.

As far as I have been able to observe the retiring manners of this recluse, he slumbers out the day chiefly in the dark tops of lofty trees. In these, according to Wilson, he generally begins to build in the month of May, though probably earlier in the Southern States. The nest is usually placed in the fork of a tree, made of a considerable pile of sticks, and lined with dry leaves and some feathers; and, as a saving of labor, sometimes they select a hollow tree for the purpose. The eggs are said to be 4, round, of nearly the size of those of a common hen and equally white; those of the *Bubo*, often deposited in the crannies of ruins, or holes of rocks, only 2 and rarely 3, exceed in size the egg of the domestic fowl, and are also of the same color.

The male of this species is about 20 inches in length. The bill is black. The irids bright yellow. The horns are broad, and 3 inches in length, formed of 12 or 14 feathers, with black webs and edged with brownish yellow; the face ferruginous, bounded by a band of black; a whitish space between the bill and eyes. Beneath, marked

* A Mr. Barlow, who saw this encounter, published a drawing of the action as he had witnessed it.

with numerous transverse dusky bars on a yellow and white ground ; the vent paler. The feet covered with hair-like pale brown feathers. Claws black. Tail rounded, and broad, passing an inch beyond the wings, mottled with brown and tawny, and crossed with 6 or 7 narrow bars of brown. Above, whitish and ferruginous, thickly mottled with dusky. Chin whitish, beneath a band of brown, and then another narrow one of white. — The *Female* is about 2 feet, with the white on the throat less pure, and is also less ferruginous below.

††. *With the head not tufted ; — and the disk of feathers round the face distinctly developed.*

GREAT GREY OR CINEREOUS OWL.

† (*Strix cinerea*, GM. PENNANT. vol. i. p. 268. No. 120. BONAP. AM. Orn. . . . pl. 23. fig. 2. *S. lapponica*, TEM.)

SPEC. CHARACT. — Dark umber-brown mottled with whitish ; the face cinereous, with narrow black concentric circles ; the tail extending beyond the wings, both of which are banded, and the bands mottled ; bill yellowish-white ; the irids yellow ; feet and legs grey and unspotted.

THIS is the largest American species known, and, if the *S. lapponica*, common also to the arctic circle, and seldom leaving it ; being only accidental about Lake Superior, and occasionally seen in Massachusetts in the depth of severe winters. One was caught perched on a wood-pile, in a state of listless inactivity, in the morning after day-light, at Marblehead, in February, 1831. This individual survived for several months, and showed a great partiality for fish and birds. At times he uttered a tremulous cry or *hō hō hō hō hoo*, not very dissimilar to that of the Mottled Owl. At Hudson's Bay and Labrador it resides the whole year. They associate in pairs ; fly very low, and feed on mice and hares, which they seize with such muscular vigor as sometimes to sink into the snow after them a foot deep. With ease

it is able to carry off the alpine hare alive in its talons. In Europe, the species appears wholly confined to the desert regions of Lapland; two or three stragglers being all that have been obtained out of that country by naturalists. Pennant adds, that it constructs its nest in a pine tree about the middle of May, with a few sticks, and lines it with feathers; the eggs are 2, and spotted with a darkish color. The young take to wing about the close of July.

The male of this species is 2 feet one or two inches in length, in alar extent 4, and weighs about 3 pounds. The irids are yellow. Bill pale yellow, almost hid in the feathers of the face. From the breast to the vent there is said to be a space about an inch in breadth bare of feathers (whether this is constant or accidental we have yet to learn). Disks of the face dark grey, edged with black, and about 9 in number. Feathers round the inner angle of the eye and bill black. A whitish space immediately under the chin, bordered below by dusky feathers. Head, hind part of the neck, back, and coverts of the wings, brownish sooty black, mottled or curdled with dirty white. The primaries dusky, inclining to white on their edges, with broad bars, composed of dusky and pale cinereous stripes; each pale bar, being bordered on either side with a dusky one. Tail wedge-formed, extending nearly 3 inches beyond the points of the closed wings, irregularly marked with oblique or zigzag strokes of brown and muddy white, and barred in the manner of the wings with 5 or 6 pale stripes; the middle feather without bars and covered with zigzags. The breast, belly, and rump cinereous white, covered with large oblong, partly arrow-shaped, blotches of pale dusky brown, becoming narrower and longitudinal towards the vent. The legs feathered to the feet, dark cinereous, and without either the spots or bars (said to exist in *S. lapponica*). Claws black and moderate.—The *female* has probably (as described by Bonaparte) the face whitish, with black circlets.

Subgenus. — ULULA.

The shell of the ear very large, extending semicircularly from the bill to the top of the head, closed with a membranaceous operculum;

and with the disk of slender feathers round the face well marked and complete. The feet thickly covered to the claws with short feathers. (The habits chiefly nocturnal.)

† *With the head tufted with ear-like appendages.*

LONG-EARED OWL.

† (*Strix otus*, LIN. WILSON. vi. p. 73. pl. 51. fig. 3. Philad. Museum, No. 434.)

SPEC. CHARACT.—Mottled ; primaries banded with ferruginous ; ear-tufts, long, of about 6 feathers ; wings extending to the tip of the tail.

THIS species, like several others of the genus, appears to be almost a denizen of the world, being found from Hudson's Bay to the West Indies, throughout Europe, in Africa, northern Asia, and probably China, in all which countries it appears to be resident ; but seems more abundant in certain places in winter, following rats and mice to their retreats in or near houses and barns. They commonly lodge in ruined buildings, the caverns of rocks, or in hollow trees. It defends itself with great spirit from the attacks of larger birds, making a ready use of its bill and talons, and when wounded is dangerous and resolute.

The Long-Eared Owl seldom, if ever, takes the trouble to construct a nest of its own ; it seeks shelter amidst ruins, and in the accidental hollows of trees, and rests content with the dilapidated nursery of the Crow, the Magpye, that of the Wild Pigeon, of the Buzzard, or even the tufted retreat of the squirrel. True to these habits, Wilson found one of these Owls sitting on her eggs in the deserted nest of the Qua-bird, on the 25th of April, near Philadelphia, in the midst of the gloomy enswamped forest which formed the usual resort of these solitary Herons. So well satisfied was she in fact with

her company, and so peaceable, that one of the Quas had a nest in the same tree with the Owl. The eggs are 4 or 5, white and round at both ends. The young, until nearly fully grown, are greyish white, and roost close together on a large branch, during the day, sheltered and hid amidst the thickest foliage; they acquire their natural color in about 15 days. Besides mice and rats, this species also preys on field-mice, moles, and beetles. The plaintive cry, or hollow moaning made by this bird, "*clōw clōud*," incessantly repeated during the night, so as to be troublesome where they frequent, is very attractive to the larger birds, who, out of curiosity, and for persecution, assemble round this species when employed as a decoy, and are thus shot, or caught by limed twigs.

The length of this species is about 14 inches. The tufts or ear-like feathers from 6 to 10, black, edged with ochreous and whitish. Irids bright yellow. Above, the plumage is ferruginous yellow, irregularly spotted with dark brown and light grey. Below, of a pale ochre yellow, with oblong spots of blackish brown. Bill black. The *female* has the throat and face white; the latter marked at the sides with brown spots. All the plumage is also more tinged with greyish white. The *young* before moulting are of a ferruginous white, marked with transverse blackish lines. The tail and the wings grey, with numerous brown points; and with 7 or 8 transverse dark brown bands. The whole face of a blackish brown. The iris paler, and the cere inclining to olive.



SHORT-EARED OWL.

+ (*Strix brachyotos*, LATHAM. WILSON, iv. p. 64. pl. 33. fig. 3. [male.]
Philad. Museum, No. 440.)

SPEC. CHARACT. — Ear-like tufts inconspicuous, of 2 or 3 very short feathers; general color ochreous, spotted with blackish-brown; face round the eyes blackish; tail, with about 5 bands, not extending beyond the tips of the wings. — *Female* with the general tints paler. In the *young* the face is blackish.

THIS is another of those nocturnal wanderers which now and then arrive amongst us from the northern regions where alone they breed. It comes to Hudson's Bay from the south about May; where it makes a nest of dry grass on the ground, and, as usual, has white eggs. After rearing its brood it departs for the south in September, and in its migrations has been met with as far as New Jersey, near Philadelphia, where, according to Wilson, it arrives in November, and departs in April. Pennant remarks, that it has been met with in the southern continent of America at the Falkland islands. It is likewise spread through every part of Europe, and is common in all the forests of Siberia; it also visits the Orkney islands, and Iceland. In England it appears and disappears with the migrations of the Woodcock. Its food is almost exclusively mice, for which it watches, seated on a stump, with all the vigilance of a cat, listening attentively to the low squeak of its prey, to which it is so much alive as to be sometimes brought in sight by imitating the sound. They are readily attracted by the blaze of nocturnal fires, and on such occasions have sometimes had the blind temerity to attack men, and come so close to combat, as to be knocked down with sticks. When wounded, they also display the same courageous ferocity, so as to be dangerous to approach. In dark and cloudy weather it sometimes ventures abroad by day-light, takes

short flights, and when sitting and looking sharply round, it erects the short ear-like tufts of feathers on the head, which are at other times scarcely visible. Like all other migrating birds, roving indifferently over the country in quest of food alone, they have sometimes been seen in considerable numbers together; Bewick even remarks, that 28 of them had been counted at once in a turnip-field in England. They are also numerous in Holland in the months of September and October, and in all countries are serviceable for the destruction they make among house and field mice, their only food. Although they usually breed in high ground, they have also been observed in Europe to nest in marshes, in the middle of the high herbage, a situation chosen both for safety and solitude.

The length of this species is from 13 to 15 inches (the latter the length of Wilson's bird, whose extent was 3 feet 4 inches). The head small. Tail ochreous, with brown bands and tipped with white. Beneath isabella yellow, with longitudinal spots of blackish brown. Bill black. Feet and toes feathered. Iris of a bright yellow.

††. *With the head destitute of ear-like tufts.*

BARRED OWL.

(*Strix nebulosa*, LIN. WILSON, iv. p. 61. pl. 33. fig. 2. Philad. Museum, No. 464.)

SPEC. CHARACT. — Greyish-brown with transverse whitish spots; beneath whitish, neck and breast with transverse bars, the belly and vent with longitudinal stripes of brown; irids brown; bill yellow; the tail extending considerably beyond the tips of the wings. — *Female* with the scapulars of a dark brown, and the wings more spotted with white. — The *young* have the tints deeper; and the bill horn-colored.

THIS species inhabits the northern regions of both the old and new continent, but with this difference, as in the

Bald Eagle, that in the ancient continent they seldom wander beyond the arctic circle, being found no farther to the south than Sweden and Norway ; while in America, they dwell and breed, at least, in all the intermediate region from Hudson's Bay to Florida, being considerably more numerous even than other species throughout the swamps and dark forests of the southern states. Their food is principally rabbits, squirrels, grouse, quails, rats, mice, and frogs. From necessity, as well as choice, they not unfrequently appear around the farm-house and garden in quest of the poultry, particularly young chickens. At these times they prowl abroad towards evening, and fly low and steadily about, as if beating for their prey. In Alabama, Georgia, West Florida, and Louisiana, where they abound, they are often to be seen abroad by day, particularly in cloudy weather, and, at times, even soar and fly with all the address of diurnal birds of prey. Their loud guttural call of 'koh 'koh 'ko 'kõ hó, or 'whah 'whah 'whah 'whah-aa, may be heard occasionally both by day and night, and, as a note of recognition, is readily answered when mimicked, so as to decoy the original towards the sound. One which I received, in the month of December (1830), was hovering over a covey of quails, in the day-time ; and though the sportsman had the same aim, the owl also joined the chase, and was alone deterred from his sinister purpose by receiving the contents of the gun intended only for the more favorite game. Audubon says, that they usually nestle in hollow trees, without adding any lining even to the cavity ; though they sometimes also take possession of the old nests of the Crow or Red-tailed Hawk. The eggs, globular and white, are from 4 to 6. When the young leave the nest, they still keep together for mutual warmth and safety, in the high, shaded branches of the

trees where they have probably been hatched ; and, huddled together near the trunk, they escape pretty readily the notice of their enemies. On being approached, however, by the parents, they utter a hissing call, audible for some distance. According to Audubon, when kept in captivity they prove very useful in catching mice. Their flesh is also eaten by the creoles of Louisiana and considered as palatable.

The length of the *male* of this species, according to Wilson, is $16\frac{1}{2}$ inches, according to Temminck $21\frac{1}{2}$! I have found the *female* to measure, as given by Wilson, 22 inches ; Temminck's measurement of the same sex is nearly $23\frac{1}{2}$. The face cinereous, striped with brown. Above, as well as the tail, of a cinereous brown, barred transversely with whitish and yellowish. Wing-coverts thickly spotted with white. Tail remarkably convex above, barred with 5 or 6 broad stripes of brown. Fore part of the neck and breast whitish, barred *transversely* with pale brown ; below, striped *longitudinally* with the same, to the tail. Legs clothed with short feathers ; the extremity of the toes covered with scales.

ALUCO, OR BROWN OWL.

— (*Strix aluco*, GMELIN. LATHAM, Ind. Orn. i. p. 59. [adult.] *S. stridula*, LATHAM, Ind. i. p. 56. sp. 25. [the young, or TAWNY OWL.]

SP. CHARACT. — Tawny, with dark brown and small white spots ; below yellowish-white, with transverse bars of brown, crossed by narrow longitudinal ones of blackish ; iris of a blackish blue ; the wings extending a little beyond the tail ; 4th and 5th primaries longest. — *Female* more tawny, often inclining to ferruginous red. *The Young* of a year resemble the female, and have the iris brown.

THIS species, hitherto seen only in Newfoundland, and the young suspected to occur at Hudson's Bay by Pen-
nant, is common in Europe, and usually frequents the

thickest forests. It is a nocturnal kind, lodging constantly in hollow trees, and commencing its rambles about dusk. It flies lightly and sideways like most of the genus, is a keen mouser, and may be decoyed within gun-shot by imitating the squeak of that animal. It is however observed to be rather dainty, seldom eating more than the fore-quarters of its prey, and leaving the rest in its nest untouched. It is said now and then to burrow like a rabbit, probably after its prey when heard or seen, in which particular it seems to follow, in a measure, the habit of the *S. cunicularia*, or Burrowing Owl, already mentioned. Like the Long-Eared species, it takes but little trouble about a nest, constantly occupying those of other large birds which have become neglected, such as that of the Buzzard, Kestrel, Crow, or Magpie. Its eggs, 4 or 5 in number, are whitish, and round as usual.

Although, during summer, it lodges constantly in the hollow trees of the forest, in winter it occasionally ventures to approach habitations and farm-yards, assisting the cat in ridding the premises of rats and mice. It also pursues and catches small birds, or picks them off their roost, and devours frogs and beetles. Early in the morning during summer, it retires into the woods, and conceals itself in the thickest copse, or sleeps away the day, hidden amidst the foliage of the most shady trees. Its dismal cry, *hoō, ōō, ōō, ōō, ōō, ōō, ōō*, resembling the howling of the wolf (*ululare*), originated its name of *ulula* among the Romans. The cry of the young bird, or Tawny Owl, is like a shouting or hallooing *hōhō, hōhō, hōhōhōhō*, which, however unpleasant, has the curious effect of drawing great numbers of small birds around him, at which times, it is probable, he repays their insolent curiosity by seizing and feeding on the plumpest of them.

The length of this species is from 15 to 16 inches. The head is large and flattened behind. Above, spotted with large touches of deep brown; on the scapulars are some large spots of white. Primaries and tail banded alternately with blackish and greyish rufous. The feet feathered to the toes. Occasionally varying to a pure white, peppered over with numerous triangular little spots; also round the eyes white, with a black zone; the down of the legs likewise white, with black points. This appears to be nearly an albino.

ACADIAN OWL.

(*Strix acadica*, GM. Little Owl, *S. passerina*, WILSON, iv. p. 66. pl. 34. fig. 1. Philad. Museum, No. 522.)

SP. CHARACT.—Dark greyish brown spotted with white; beneath white, spotted with chesnut brown; tail short, not exceeding the tips of the wings, with 3 narrow bands of white spots; bill blackish: a small species.—*Female*, with the tints deeper, and with the white spots shaded with yellowish.

THIS very small species is believed to be an inhabitant of the northern regions of both continents, from which in Europe it seldom wanders, being even very rare in the north of Germany. In the United States it is not uncommon as far to the south as Pennsylvania and New Jersey, where it is resident, having apparently a predilection for the sea-coast, living and nesting in the Pine trees, or in the clefts of rocks, and laying 2 white eggs as usual. It is generally nocturnal; and if accidentally abroad by day, it flies quickly to some shelter from the light. It is very solitary in its habits, living wholly in the evergreen forests, and coming out only towards night, or early in the morning, in search of mice, beetles, moths, and grasshoppers.

The note of this species is as yet unknown, it is not probably silent, any more than the *Strix passerina*, or Lit-

the Owl to which it is nearly related. This latter kind has a reiterated cry, when flying, like *Poŏpoŏ poŏpoŏ*. Another note, which it utters sitting, appears so much like the human voice, calling out *aīmě, hēmě, ědmě*, that, according to Buffon, it deceived one of his servants who lodged in one of the old turrets of the castle of Montbard; and waking him up at 3 o'clock in the morning, with this singular cry, he opened the window and called out, "*Who's there below? my name is not EDMÉ, but Peter!*"

The length of the Acadian owl is about $7\frac{1}{2}$ inches, and 18 in alar extent. Above, dark greyish-brown, scattered with spots and points of white. Below, white with large spots of light brown or chesnut; [upon the flanks, in the European adult, transverse spots of the same color.] On the throat and sides of the neck large white spaces. 3 or 4 narrow bands of white on the tail, formed of spots of that color; the primaries also crossed obliquely with 5 bars of white. The feet thickly feathered to the toes. The bill dark lead color, approaching black and yellowish at the point, (in *Strix Tengmalmi* it is yellow.) Iris pale yellow.

NOTE. Prince Bonaparte, in a letter to W. Cooper, Esq. says, he has recently ascertained that this species differs from all the other European small kinds of the genus.

Subgenus. — STRIX.

Shell of the ear very large, and with the operculum or lid still larger than in the preceding subgenus: disk of feathers round the face much dilated; the bill lengthened out and curved only at the tip; the legs thickly feathered, and the toes covered with scattered bristles; the head without any ear-like tufts of feathers. — Habits nocturnal.

WHITE OR BARN OWL.

(*Strix flammea*, LIN. WILSON, vi. p. 57. pl. 50. fig. 2. Philad. Museum, No. 486.)

SP. CHARACTER.—Yellowish-tawny, or pale yellowish with darkish zigzag lines, and small spots of whitish; beneath whitish, or yellowish white, generally with dark brownish points; wings extending far beyond the tail; bill whitish.

THERE is scarcely any part of the world in which this common species is not found; extending even to both sides of the equator, it is met with in New Holland, India, and Brazil; it is perhaps no where more rare than in this part of the United States, and is only met with in Pennsylvania and New Jersey in cold and severe winters. Nor is it ever so familiar as in Europe, frequenting almost uniformly the hollows of trees. In the old continent it is almost domestic, inhabiting even populous towns, and is particularly attached to towers, belfries, the roofs of churches, and other lofty buildings, which afford it a retreat during day. The elegant, graphic lines of Gray, describing its romantic haunt, are in the recollection of every one.

—————“from yonder ivy-mantled tower,
The moping owl does to the moon complain
Of such, as wand’ring near her secret bower,
Molest her ancient solitary reign.”

It leaves its dark abode, usually at twilight, at which time it makes a blowing hiss after the manner of the Mottled Owl, something like *shaī*, *shaīe*, *shaīeaī*. It also utters other different sharp and grating notes either on the wing or at rest, resembling, *craiē*, *graiē*, &c., all of which are so uncouth and disagreeable, that, connected with the awful scenery of churches and of tombs, in the hours of darkness, they inspire dread and terror in the minds of the weak, timid, and superstitious. The owl,

therefore, has been long regarded as a funereal spectre, or a messenger of death, and its unwelcome and familiar visits around the abode of the sick are thought to be little better than a summons to the regions of mortality, among which it delights to dwell. But so unreasonable is superstition that bad and good are sometimes derived from the same omen. Thus the Mongul Tartars pay divine honors to this misrepresented bird, attributing the preservation of the founder of their empire, Gengis Khan, to one of its accidental visits to the bush under which he lay hid, his pursuers naturally supposing, that no person could be concealed where this friend of solitude would venture to perch.

The cry of this nocturnal bird, discordant as it sometimes appears, is still in harmony with the scenes and circumstances it accompanies, and we may say with Cōwper,

“ The jay, the pie, and e’en the boding owl,
That hails the rising moon, have charms for me :
Sounds inharmonious in themselves and harsh,
Yet, heard in scenes where peace for ever reigns,
And only these, please highly for their sake.”

Nor are we to suppose that the cries of the Owl are only complaints and sounds of distress and inquietude. They are not left by nature as spectacles of derision, but have their calls of complaisance, of recognition, and attachment, which, though discordant to human ears, are yet only ordinary expressions of agreement and necessity.

Superstition laid aside, the owl renders essential service to the farmer by destroying mice, rats, and shrews, which infest houses and barns ; it also catches bats and beetles. They likewise clear churches of such vermin, and now and then, pressed by hunger, probably, they have been known to sip, or rather eat, the oil from the lamps when congealed by cold. A still more extraordinary appetite, attributed to the owl, is that of catching fish, on

which they fed their voracious young.* In autumn also they have been known to pay a nightly visit to the places where springes were laid for wood-cocks and thrushes. The former they killed and ate on the spot, but sometimes carried off the thrushes and smaller birds, which, like mice, they either swallowed entire, rejecting the indigestible parts by the bill; or, if too large, they plucked off the feathers and then bolted them whole, or only took them down piecemeal.

In fine weather they venture out into the neighbouring woods at night, returning to their usual retreat at the approach of morning. When they first sally from their holes, their eyes hardly well opened, they fly tumbling along almost to the ground, and usually proceed sideways in their course. In severe seasons, 5 or 6, probably a family brood, are discovered in the same retreat, or concealed in the fodder of the barn, where they find shelter, warmth, and food. The Barn Owl drops her eggs in the bare holes of walls, in the joists of houses, or in the hollows of decayed trees, and spreads no lining to receive them: they are 3 to 5 in number, of a whitish color, and rather long than round. The season of laying, in Europe, is from the end of March to the beginning of April.

When out abroad by day, like most of the other species, they are numerously attended by the little gossiping and insulting birds of the neighbourhood: and to add to their distraction, it is not an uncommon practice, in the north of England, for boys to set up a shout and follow the Owl, who becomes so deafened and stunned as at times nearly to fall down, and thus become an easy prey to his persecutors;

* This happened in England; gold-fish being missed from a pond, they were supposed to be stolen in the night, and the thief turned out at length to be an owl.

and the probability of such an effect will not be surprising, when we consider the delicacy and magnitude of the auditory apparatus of this bird, the use of which is, probably, necessary to discover the otherwise silent retreats of their tiny prey. When taken captive, according to Buffon, they do not long survive the loss of liberty, and pertinaciously refuse to eat; a habit very different from that of the young Mottled Owl, who allowed himself to feed from my hand, and tugged greedily and tamely at the morsel held out to him until he got it into his possession; small birds also he would instantly grasp in his talons, and hiss and *shaié, shaié*, when any attempt was made to deprive him of his booty.

A superstitious legend prevails in the north of England, that Pharaoh's daughter was transformed into an Owl, and the common distich, which I have often heard when a child, and while the Owl was screaming on a winter's night, ran thus :

Oh,' ööö öö ———

"I once was a king's daughter and sat on my father's knee,
But now I'm a poor Hoolet, and hide in a hollow tree!"

an invention that might do credit to the genius of Ovid, who thus describes this species of *Strix*, and the etymology of its name :

"Large is their head, and *motionless* their eye,
Hook-billed, sharp-clawed, and in the dusk they fly.

* * * * *

Screech-Owls they're called; because with dismal cry,
In darkling night, from place to place they fly." *

* Grande caput, stantes oculi, rostra apta rapinæ
Canities pennis, unguibus hamus inest.

* * * * *

Est illis strigibus nomen; sed nominis hujus
Causa quod horrendâ stridere nocte solent.

FASRI, lib. vi. 139.

How this feared and despised bird came to be the emblem of wisdom, the sacred bird of Minerva, among so grave and wise a people as the ancient Grecians, is not easy to imagine, further, than that it was one of the ever fruitful inventions of superstition, adopted by accident; and as the loquacity of this stupid and generally silent bird would never betray the real defect of his character, his solemn looks and taciturn behaviour continued to command the veneration of the public.

The young of this species, when they have just attained their growth, are, in France, considered good food, as they are then fat and plump. At Hudson's Bay, a large Owl, resembling the cinereous, is likewise eaten and esteemed a delicacy, according to Pennant.

The Barn Owl is about 14 inches long, and upwards of 3 feet inches in the stretch of the wings. The bill is whitish, and longer than usual. The face white, surrounded by a border of narrow, thick-set feathers, of a reddish cream color externally. In some individuals the under side of the body is entirely without spots. Tail pale yellow, crossed with 5 bars of brown, and thickly dotted with the same. In the *female* the tints are paler and clearer. Sometimes a variety occurs whitish, or wholly white.

NOTE. Besides these established species of the genus, we have had information of a bird in this vicinity which approaches the †*Scandinavian Eared Owl* of Linnæus, but have not yet proved fortunate enough to possess a specimen; it is described as a very large Black and White Owl with ears. This is probably, the *Strix maxima, capite aurito, corpore niveo*, or Great Horned White Owl of Bartram, p. 289. Information concerning this doubtful species would be very acceptable to the author, and fill up a blank in Natural History.

ORDER SECOND.

OMNIVOROUS BIRDS. (*Temminck.*)

With the *bill* of moderate size, strong, stout, and edged at the sides; the upper mandible more or less notched at the point. The *feet* provided with 4 toes, 3 of which are in front and 1 behind. The *wings* of moderate size, and with the quills pointed.

HABITS. The birds which compose this order live in bands, or companies, and are monogamous. They nest upon trees, in the crannies of ruins or old towers, and some of the species occupy the natural cavities of decayed trees. The male and female also hatch the eggs in turn. They live on insects, worms, and carrion, and often add likewise to this nourishment grain and fruits. Their flesh is usually hard, tough, and unpalatable.

Family—GREGARIÆ. (*Illiger. Bonaparte.*)

With the bill moderate in size, hard, straight, acute, and sharp on the edges; the nostrils at its base, and partly hid; the tongue incapable of extension, and cleft or notched at the extremity. The feet robust, and the legs naked. The wings of moderate length, and the quills pointed at the tips.

These birds are generally omnivorous, and gregarious at certain seasons of the year. They build in trees, some also on cliffs, ruins, or round inhabited dwellings, and also on the ground. Their voice

is generally loud, quaint, and harsh, seldom harmonious ; some have a remarkable talent for mimickry. The plumage, when of more than a single color, is often eminent for beauty, splendor, and singularity. They are in general, easily domesticated, and readily fed.

§ 1. *Birds more usually Gregarious.*

In these the bill is in the form of an elongated cone, entire on its edges, and bare at the base, where it presents a sort of open sinus in the feathers of the forehead. The outer and middle toes united at the base. The tail of 12 feathers.

STARLINGS. (STURNUS, *Lin.*)

The BILL in the form of a lengthened cone, depressed, and somewhat blunt, with the edges vertical ; above somewhat rounded. NOSTRILS half closed by an arched membrane. The *tongue* narrowed, sharp, and cleft at the point. The hind nail longest and largest. The 2d and 3d primaries the longest.

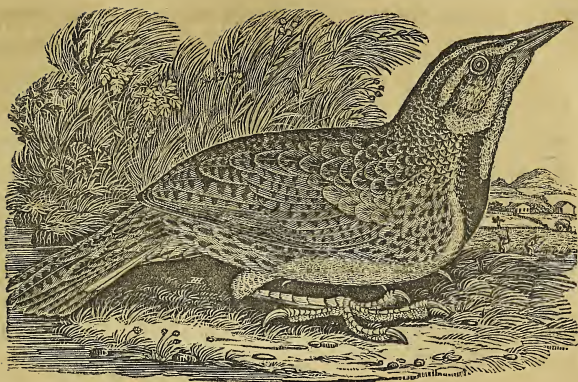
The female is scarcely distinguishable from the male by the plumage ; but the young differ from the adult. There is also a double and periodical change in the colors of the bill and feet, as well as in the tints and spots with which the plumage is decorated, which takes place independently of the annual moult, so that the feathers appear to undergo this alteration by the friction of their barbs, as well as the action of the air and light ; and in spring, after the true moult, the numerous spots of the autumnal feathers disappear.

The Starlings feed principally on insects which they find on the ground ; some of the species follow the cattle paths to pick up those they disturb, and often alight familiarly on their backs ; they also feed on different kinds of seeds, and search for them, like pigeons and common

fowls, in the ordure of domestic animals. The foreign species nest in hollow trees, under the tiles and roofings of houses, and in the holes of walls; but the ambiguous, American kind, confined to low meadows and savannahs, constructs its nest in tufts of rank grass. Species are found in all parts of the globe. The common Starling has been taught to articulate words, and sings pretty well in confinement, though with something of the monotonous jingle of our common Blackbird.

Subgenus. — STURNELLA. (American Starling.)

In these the sinus at the base of the bill is deep and rounded. With the hind toe as long as the middle one, and greatly exceeding the lateral. The wings shortish and somewhat rounded. No spurious or additional wing feather at the shoulder. The 1st and 5th primaries about equal; the 2d, 3d, and 4th longest; two of the secondaries also much elongated. Peculiar to America, very distinct from the common Stare, and allied to the following genus, but more remotely to the Larks.



AMERICAN STARLING, or MEADOW LARK.

(*Sturnus ludovicianus*, L. *Alauda magna*, WILSON, 3. p. 20. pl. 19.
fig. 2. Philad. Museum, No. 5212.)

SP. CHARACT.—Beneath and line over the eye bright yellow; a black crescent on the breast; and with the 4 lateral tail feathers white.

THIS well known harmless inhabitant of meadows and *old fields* is not only found in every part of the United States, but appears to be a resident in all the intermediate region, from the frigid latitude of 53° ,* to the mild table land of Mexico,† and the tropical savannahs of Guiana. In the winter, they abound in Alabama and West Florida, so that in some degree, like the Jays, and the legitimate Starlings, they partially migrate in quest of food during the severity of the weather in the colder states. It is not however improbable, but that most of the migrating families of this bird, which we find at this season, have merely travelled eastward from the cold western plains that are annually covered with snow. But although they are now

* According to Richardson in Franklin's Journal.

† Bullock's Travels.

seen in considerable numbers, any single flock is never greater than a pair and their attendant brood, or from 6 to a dozen, in the case of a second covey. The true Starlings, on the contrary, have all the habits of our common Blackbirds; they assemble in winter, like dark clouds, moving as one body, and when about to descend, perform progressive circular evolutions in the air like a phalanx in the order of battle; and when settled they blacken the earth with their numbers, as well as stun the ears with their chatter. Like crows also, they seek the shelter of reed marshes to pass the night, and in the day take the benefit of every sunny and sheltered covert.

Our Starling, like the American Quail, is sociable, but scarcely gregarious; and though many, no doubt, wander some distance after food, yet a few, in Pennsylvania, as well as in this rigorous climate, may be seen in the market after the ground is covered with snow. Wilson even observed them in the month of February, during a deep snow, among the heights of the Alleghanies, gleaning their scanty pittance on the road, in company with the small snow birds.

The flesh of our bird is white, and for size and delicacy it is considered little inferior to the Partridge; but that of the European species is black and bitter.

The flight of the *Sturnella* is laborious and steady like that of the Quail, with the action of the wings renewed at short intervals. They often alight on trees, and select usually the main branches or topmost twigs on which to perch, though their food is commonly collected from the ground. At various times of the day, and nearly through the winter, in the milder states, their very peculiar lisping, long, and rather melancholy note is heard at short intervals; and, without the variations which are not inconsiderable, bears some resemblance to the slender sing-

ing and affected pronunciation of *ét sě déé àh*, and *psé-dee etsīlío*, or *taí sedílío* in a slow, wiry tone, and sometimes differently varied and shortened. The same simple ditty is repeated in the spring, when they associate in pairs; the female also, as she rises or descends, at this time, frequently gives a reiterated guttural chirp, or hurried twitter like that of the female Red-winged Blackbird. I have likewise at times heard them utter notes much more musical and vigorous, not very unlike the fine tones of the Sky-Lark, which

“Shrill-voiced and loud, the messenger of morn,
Ere yet the shadows fly, [high] mounted, sings
Amid the dawning clouds, and from their haunts
Calls up the tuneful nations,”

but I can by no means compare our lisping songster with that blithe “harbinger of day.” There is a monotonous affectation in the song of our Lark, which appears indeed somewhat allied to the jingling though not unpleasant tune of the Starling.* The Stare, moreover, had the faculty of imitating human speech, (which ours has not, as far as we yet know,) and could indifferently speak even French, English, German, Latin, and Greek, or any other language within his hearing, and repeat short phrases, so that “‘*I can't get out, I can't get out,*’ says the Starling,” which accidentally afforded Sterne such a beautiful and pathetic subject for his graphic pen, was probably no fiction.

At the time of pairing our Lark exhibits a little of the jealous disposition of his tribe, and, having settled the dispute which decides his future condition, he retires from his fraternity, and, assisted by his mate, selects a thick tuft for the reception of his nest, which is pretty compact,

* *Sturnus pisitat ore, isitat, pisistrat*, was the cry of the Stare to the ears of the Romans.

made of dry, wiry grass, and lined with finer blades of the same. It is usually formed with a covered entrance in the surrounding withered grass, through which a hidden and almost winding path is made, and generally so well concealed, that the nest is only to be found when the bird is flushed.

The eggs are 4 or 5, white, with a very faint tint of blue, almost round, and rather large for the size of the bird, marked with numerous small reddish brown spots more numerous at the greater end, blended with other lighter and darker points and small spots of the same. They probably often raise 2 broods in the season. About the time of pairing, in the latter end of the month of April, they have a call like *'tship, twee*, the latter syllable in a fine and slender tone, something again allied to the occasional notes of the Red-winged Blackbird, to which genus, (*Icterus*) our *Sturnella* is not very remotely allied. Towards the close of June, little else is heard from the species, but the noisy twitter of the female, preceded by a hoarse and sonorous *'j'imp* or *'j'ip*, accompanied by an impatient raising and lowering of the wings, and, in short all the unpleasant and petulant actions of a brood hen, as she is now assiduously engaged in fostering and supporting her helpless and dependent offspring.

Their food consists of the larvæ of various insects, as well as worms, beetles, and grass seeds; to assist the digestion of which they swallow a considerable portion of gravel. It does not appear that this species ever adds berries or fruits of any kind to his fare like the Starling, but usually remains the whole summer in moist meadows, and in winter retires to the open grassy woods, having no inclination to rob the orchard or garden, and, except in winter, is of a shy, timid, and retiring disposition.

The length of the *Sturnella* is $10\frac{1}{2}$ inches, its extent $16\frac{1}{2}$. Above, variegated with black, bright bay, and ochreous. Tail wedged, the feathers pointed, the 4 outer nearly all white. Sides, thighs, and vent pale ochreous, spotted with black. Upper mandible brown, the lower bluish white. Iris hazel. Legs and feet large, pale flesh color. In the *young* bird the yellow is much fainter, than in the adult. Another species of this subgenus is found at the Straits of Magellan, darker than ours, and beneath of a bright carmine red. They form truly a very distinct genus.

TROUPIALS. (*ICTERUS*, *Brisson*.)

In these birds the BILL is in the form of an elongated, sharp-pointed cone, somewhat compressed, rounded above, and rarely somewhat curved; with the margins inflected. NOSTRILS oval, and covered by a membrane. *Tongue* sharp, and cleft at tip. The *tarsus* rather longer than the middle toe; inner toe but little shorter than the outer, and nearly equal to the hind one; the middle toe longest; the hind nail twice as large as the others. *Wings* sharp. The 1st primary but little shorter than the 3d and 4th, which are longest.

The *Female* is very different from the male; but the *young* are very like the former. They generally moult once a year, but the colors are brighter in spring; in autumn and winter the plumage of the male somewhat resembles that of the female. — They are gregarious, and usually omnivorous; building mostly in trees or bushes; some of them are partly polygamous. Their gait is rather quick, with the body almost erect, the flight vigorous. Their flesh not usually esteemed. — A genus exclusively American. Some of those of the first section, *Cassicus*, possess considerable melody and power of voice; as well as those of the subgenera *Icterus*, and *Emberizoides*.

Subgenus. — *ICTERUS*.

With the bill narrower and slightly bent towards the point; the frontal sinus of the bill acute, but not deep. Female scarcely differing in size from the male. — These are not constantly gregarious, only so during the period of migration, and before incubation; they also frequent forests; feeding chiefly on insects and berries, though when in confinement capable of digesting other vegetable food. In

the breeding season they are usually seen in pairs; and make very ingenious pensile nests. Allied somewhat to the warblers of the subgenus *Dacnis*.



BALTIMORE ORIOLE, OR GOLDEN ROBIN.

(*Icterus baltimore*, BONAP. *Oriolus baltimore*, WILSON, 1. p. 23. pl. 1. fig. 3. [male] and 6. p. 88. pl. 53. fig. 4. [female.] AUDUBON, pl. 12. [a nest, and very fine group.] Philad. Museum. No.)

SP. CHARACT.—Tail nearly even.—*Male* orange; head, neck back, wings, and tail, black; the lateral tail feathers orange at the summit.—*Female* and *young*, with the orange color pale; the black also greyish, mottled with yellow, and the tail orange.

THESE gay, lively, and brilliant strangers, leaving their hibernal retreat in South America, appear among us about the 1st week in May, and more than a month earlier in Louisiana, according to the observations of Audubon. They were not seen, however, in West Florida by the middle of March, although vegetation had then so far advanced, that the oaks were in leaf, and the white flowering Cornel* in full blossom.

It is here that they pass the most interesting period of their lives; and their arrival is hailed as the sure harbinger of the approaching warm and mild season. Full of life and activity, these fiery sylphs are now seen vaulting and darting incessantly through the lofty boughs of our tallest trees; appearing and vanishing with restless inquietude, and flashing at quick intervals into sight, from amidst the tender waving foliage, they seem like living gems intended to decorate the verdant garment of the new clad forest. But the gay Baltimore is neither idle nor capricious; the beautiful small beetles and other active winged insects on which he now principally feeds, are in constant motion, and require perpetual address in their capture. At first the males only arrive, but without appearing in flocks; their mates are yet behind, and their social delight is incomplete. They appear to feel this temporary bereavement, and in shrill and loud notes, they fife out their tender complaints, in quick succession, as they pry and spring through the shady boughs for their tiny and eluding prey. They also now spend much time in the apple trees, often sipping honey from the white blossoms over which they wander with peculiar delight, continually roving amidst the sweet and flowery profusion. The mellow whistled notes which they are heard to trumpet from the high branches of our tallest trees and gigantic elms,

**Cornus florida.*

resemble, at times, *'tshippe-tshayä too too*, and sometimes *'tshippee 'tshippee*, (lispingly) *too too*, (with the 2 last syllables loud and full.) These notes are also varied by some birds so as to resemble *'tsh 'tsh 'tsheetshoo tshoo*, *tshoo* * also *'tsh 'tsheefä 'tsheefä 'tsheefä, tshoo*, and *'k'túf ä túf ä túf a téa kërry*; † another bird I have occasionally heard to call for hours, with some little variation, *tū, tēo tēo téo too* in a loud, querulous, and yet almost ludicrously merry strain. At other intervals, the sensations of solitude seem to stimulate sometimes a loud and interrogatory note, echoed forth at intervals, as, *k'rry kerry?* and terminating plaintively *k'rry k'rry k'rry 'tū*, the voice falling off very slenderly in the last long syllable, which is apparently an imitation from the Cardinal Grosbeak, and the rest is derived from the Crested Titmouse whom they have already heard in concert as they passed through the warmer states. Another interrogatory strain which I heard here in the spring of 1830 was precisely, *'yyp 'k'rry, 'yyp, 'yyp k'rry*, very loud and oft repeated. Another male went in his ordinary key, *tshërry tshërry, tshīp-ee tsh'rry*, notes copied from the exhaustless stock of the Carolina Wren (also heard on his passage), but modulated to suit the fancy of our vocalist. The female likewise sings, but less agreeably than the male. One which I had abundant opportunity of observing, while busied in the toil of weaving her complicated nest, every now and then, as a relief from the drudgery in which she was solely engaged, sung, in a sort of querulous and rather plaintive strain, the strange, uncouth syllables, *'kà kèà 'kōwà, keka keka*, the final tones loud and vaulting, which I have little doubt were

* The first 3 of these notes are derived from the Summer Yellow Bird, though not its most usual tones.

† The last phrase loud and ascending, the *tea* plaintive, and the last syllable tender and echoing.

an imitation of the discordant notes of some South American bird. For many days she continued this tune at intervals without any variation. The male, also while seeking his food in the same tree with his mate, or while they are both attending on their unfledged brood, calls frequently in a low friendly whisper *'twait, 'tw'it*. Indeed, all the individuals of either sex, appear pertinaciously to adhere for weeks to the same quaint syllables which they have accidentally collected.

This bird then, like the Starling, appears to have a taste for mimicry, or rather for sober imitation. A Cardinal Grosbeak happening, very unusually, to pay us a visit, his harmonious and bold whistle struck upon the ear of a Baltimore with great delight, and from that moment his ordinary notes were laid aside for *'woit 'woit teú*, and other phrases previously foreign to him for that season. I have likewise heard another individual exactly imitating the soft and somewhat plaintive *vít yu, vít yíú* of the same bird, and in the next breath the *peút*, or call of Wilson's Thrush; also, at times the earnest song of the Robin. Indeed his variations and imitations have sometimes led me to believe that I heard several new and melodious birds, and I was only undeceived when I beheld his brilliant livery. So various, in fact, are the individual phrases chanted by this restless and lively bird, that it is scarcely possible to fix on any characteristic notes by which he may be recognised; his singular, loud, and almost plaintive tone, and a fondness for harping long on the same string, are perhaps more peculiar than any particular syllables, which he may be heard to utter. When alarmed or offended at being too closely watched or approached, they both utter an angry, rattling *tsher tsh'r*, or hiss, *tsh' tsh' tsh' 'tsh*.

The beautiful Baltimore bird is only one of the tribe of true *Icteri*, which, except the present and following species, remain within the tropical regions, or only migrate to short distances in the rainy season. Ours wing their way even into Canada, and breed in every intermediate region to the table land of Mexico. A yellow Brazilian species of the section of this genus called *Cassicus*, according to Waterton, inhabits also Demerara, where, like our bird, he familiarly weaves his pendulous nest near the planter's house, suspending it from the drooping branches of trees, and so low that it may be readily looked into even by the incurious. Omnivorous like the Starling, it feeds equally on insects, fruits, and seeds. It is called the Mocking-bird, and for hours together, in gratitude as it were for protection, he serenades the inhabitants with his imitative notes. His own song, though short, is sweet and melodious. But hearing perhaps the yelping of the Toucan, he drops his native strain to imitate it, or place it in ridicule by contrast. Again, he gives the cackling cries of the Woodpecker, the bleating of the sheep;—an interval of his own melody, then probably a puppy dog, or a Guinea fowl, receives his usual attention; and the whole of this mimickry is accompanied by antic gestures, indicative of the sport and company which these vagaries afford him. Hence we see that the mimicking talent of the Stare is inherent in this branch of the gregarious family, and our own Baltimore, in a humbler style, is no less delighted with the notes of his neighbouring feathered songsters.

There is nothing more remarkable in the whole instinct of our Golden Robin than the ingenuity displayed in the fabrication of its nest, which is, in fact, a pendulous, cylindric pouch of 5 to 7 inches in depth, usually suspended from near the extremities of the high, drooping branches of

trees, (such as the elm, the pear, or apple-tree, wild-cherry, weeping-willow, tulip-tree, or button-wood.) It is begun by firmly fastening natural strings of the flax of the silk-weed,* or swamp-holyhock,† or stout artificial threads, round two or more forked twigs, corresponding to the intended width and depth of the nest. With the same materials, willow down, or any accidental ravellings, strings, thread, sewing-silk, tow, or wool, that may be lying near the neighbouring houses, or round the grafts of trees, they interweave and fabricate a sort of coarse cloth into the form intended; towards the bottom of which they place the real nest, made chiefly of lint, wiry grass, horse and cow hair, sometimes, in defect of hair, lining the interior with a mixture of slender strips of smooth vine bark, and rarely with a few feathers, the whole being of a considerable thickness, and more or less attached to the external pouch. Over the top, the leaves, as they grow out, form a verdant and agreeable canopy, defending the young from the sun and rain. There is sometimes a considerable difference in the manufacture of these nests, as well as in the materials which enter into their composition. Both sexes seem to be equally adepts at this sort of labor, and I have seen the female alone perform the whole without any assistance, and the male also complete this laborious task nearly without the aid of his consort; who, however, in general, is the principal worker. I have observed a nest made almost wholly of tow, which was laid out for the convenience of a male bird; who, with this aid, completed his labor in a very short time, and frequently sung in a very ludicrous manner, while his mouth was loaded with a mass larger than his head. So eager are they to obtain fibrous materials, that they will readily tug

* *Asclepias* species.† *Hibiscus palustris*.

at, and even untie, hard knots made of tow. In Audubon's magnificent plates, a nest is represented as formed outwardly of the Long-Moss;* where this abounds, of course, the labor of obtaining materials must be greatly abridged. The author likewise remarks, that the whole fabric consists almost entirely of this material, loosely interwoven, without any warm lining, a labor which our ingenious artist seems aware would be superfluous in the warm forests of the lower Mississippi. A female, which I observed attentively, carried off to her nest a piece of lamp-wick 10 or 12 feet long. This long string, and many other shorter ones, were left hanging out for about a week before both the ends were wattled into the sides of the nest. Some other little birds, making use of similar materials, at times twitched these flowing ends, and generally brought out the busy Baltimore from her occupation in great anger.

I may perhaps claim indulgence for adding a little more on the biography of this particular bird, as a representative also of the instinct of her race. She completed the nest in about a week's time, without any aid from her mate; who, indeed, appeared but seldom in her company, and was now become nearly silent. For fibrous materials, she broke, hackled, and gathered the flax of the *Asclepias* and *Hibiscus* stalks, tearing off long strings, and flying with them to the scene of her labors. She appeared very eager and hasty in her pursuits, and collected her materials, without fear or restraint, while three men were working in the neighbouring walks, and many persons visiting the garden. Her courage and perseverance were indeed truly admirable. If watched too narrowly, she

* *Tillandsia usneoides*.

saluted with her usual scolding 'tsher, 'tshrr, 'tshrr, seeing no reason, probably, why she should be interrupted in her indispensable occupation.

Though the males were now comparatively silent on the arrival of their busy mates, I could not help observing this female, and a second, continually vociferating, apparently in strife. At last, she was observed to attack this *second* female very fiercely, who slyly intruded herself at times into the same tree where she was building. These contests were angry and often repeated. To account for this animosity, I now recollected, that *two* fine males had been killed in our vicinity; and I therefore concluded the intruder to be left without a mate; yet she had gained the affection of the consort of the busy female, and thus the cause of this jealous quarrel became apparent. Having obtained the confidence of her faithless paramour, the *second* female began preparing to weave a nest in an adjoining Elm, by tying together certain pendant twigs as a foundation. The male now associated chiefly with the intruder whom he even assisted in her labor, yet did not wholly forget his first partner, who called on him one evening in a low affectionate tone, which was answered in the same strain. While they were thus engaged in friendly whispers, suddenly appeared the rival, and a violent rencontre ensued, so that one of the females appeared to be greatly agitated, and fluttered with spreading wings as if considerably hurt. The male, though prudently neutral in the contest, showed his culpable partiality by flying off with his paramour; and for the rest of the evening left the tree to his pugnacious consort. Cares of another kind, more imperious and tender, at length reconciled, or at least, terminated these disputes with the jealous females; and by the aid of the neighbouring bachelors, who are never wanting among

these and other birds, peace, at length, was completely restored, by the restitution of the quiet and happy condition of monogamy. We therefore perceive, that though the quarrels of jealousy are usually confined to the bosoms of the males among birds, yet under peculiar circumstances the females are far from passive; and though this spring (1830) I witnessed many contests with the other sex, the country teeming with these beautiful birds, yet the war was only threatening and predatory, compared with the close combats of these of the weaker sex.

The eggs of this species are usually 4 or 5, white, with a faint, indistinct tint of bluish, and marked, chiefly at the greater end, though sometimes scatteringly, with straggling, serpentine, dark brown lines and spots, and fainter hair streaks,* looking sometimes almost like real hair, and occasionally lined only, and without the spots. The period of incubation is 14 days.† In Louisiana, according to Audubon, they frequently raise two broods in the season, arriving in that country with the opening of the early spring. Here they raise but a single brood, whose long and tedious support in their lofty cradle absorbs their whole attention; and at this interesting period, they seem, as it were, to live only to protect, cherish, and educate their young. The first and general cry which the infant brood utter while yet in the nest, and nearly able to take wing, as well as for some days after, is a kind of *Té-did, té-did, té-did, kai-tě-tě-did*, or *'tě'tě'tě'tě'ti't-did*, which becomes clamorous as the parents approach them with food. They soon also acquire the scolding rattle and short notes which they probably hear around them, such as *Peet weet*, the cry of the spotted Sandpiper, and others,

* The eggs which I have seen do not resemble Wilson's figure, plate 4; though they may vary as much.

† Audubon, vol. i. p. 68.

and long continue to be assiduously fed and guarded by their very affectionate and devoted parents. Unfortunately, this contrivance of instinct to secure the airy nest from the depredations of thieving and rapacious monkeys, and other animals which frequent trees in warm or mild climates, is, also, occasionally attended with serious accidents, when the young escape before obtaining the perfect use of their wings. They cling, however, with great tenacity, either to the nest or neighbouring twigs; yet sometimes they fall to the ground; and, if not killed on the spot, soon become a prey to numerous enemies. On such occasions it is painful to hear the plaints and wailing cries of the parents. And when real danger offers, the generous and brilliant male, though much the less querulous of the two, steps in to save his brood at every hazard; and I have known one so bold in this hopeless defence, as to suffer himself to be killed, by a near approach with a stick, rather than desert the offspring, in whose existence and safety his life seemed absorbed. Sometimes, after this misfortune, or when the fell cat has devoured the helpless brood, day after day the disconsolate parents continue to wail their irretrievable loss. They almost forget to eat amidst their distress, and after leaving the unhappy neighbourhood of their bereavement and fruitless toil, they still come, at intervals, to visit and lament over the fatal spot, as if spell-bound by despair. If the season be not too far advanced, the loss of their eggs is generally soon repaired by constructing a second nest, in which, however, the eggs are fewer.

The true Oriole (*O. galbula*), which migrates into Africa, and passes the breeding season in the centre of Europe, also makes a pendulous nest, and displays great courage in the defence of its young, being so attached to its progeny, that the female has been taken and conveyed

to a cage on her eggs, on which, with resolute and fatal instinct, she remained faithfully sitting until she expired.

The Baltimore bird, though naturally shy and suspicious, probably for greater security from more dangerous enemies, generally chooses for his nest the largest and tallest spreading trees near farm-houses, and along frequented lanes and roads; and trusting to the inaccessibility of his ingenious mansion, he works fearlessly, and scarcely studies concealment. But, as soon as the young are hatched, here, towards the close of June, the whole family begin to leave the immediate neighbourhood of their cares, flit through the woods, a shy, roving, and nearly silent train; and when ready for the distant journey before them, about the end of August or beginning of September, the whole at once disappear; and probably arrive, as with us, amidst the forests of South America, in a scattered flock, and continue, like Starlings, to pass the winter in celibacy, wholly engaged in gleaning a quiet subsistence until the return of spring. Then, incited by instinct to prepare for a more powerful passion, they again wing their way to the regions of the north; where, but for this wonderful providential instinct of migration, the whole race would perish in a single season. As the sexes usually arrive in different flocks, it is evident, that the conjugal tie ceases at the period of migration, and the choice of mates is renewed with the season; during which the males carry on their jealous disputes with much obstinacy. From the similarity in the circumstances of mating among most other migratory birds, it would appear that they obey the same law, depending on the transitory nature of the sexual feeling, which in autumn is nearly annihilated.

That our Oriole is not familiar with us, independent of the all powerful natural impulse which he obeys, is sufficiently obvious when he nests in the woods. Two of these solitary and retiring pairs had this summer, contrary to their usual habits, taken up their abode in the lofty branches of a gigantic Button-wood in the forest. As soon as we appeared, they took the alarm, and remained uneasy and irritable until we were wholly out of sight. Others, again, visit the heart of the populous city, and pour forth their wild and plaintive songs from the trees which decorate the streets and gardens, amid the din of the passing crowd, and the tumult of incessant and noisy occupations. Audubon remarks, that their migrations are performed singly, and during the day, and that they proceed high, and fly straight and continuous.

The food of the Baltimore appears to be small caterpillars, sometimes those of the apple-trees, some uncommon kinds of beetles, cimices, and small flies, like a species of cynips. Occasionally I have seen an individual collecting *Cicindeli* by the sides of sandy and gravelly roads. They feed their young usually with soft caterpillars, which they swallow, and disgorge on arriving at the nest; and in this necessary toil both sexes assiduously unite. They seldom molest any of the fruits of our gardens, except a few cherries and mulberries, and are the most harmless, useful, beautiful, and common birds of the country. They are, however, accused of sometimes accompanying their young to the garden peas, which they devour while small and green, and, being now partly gregarious, the damage they commit is at times rendered visible. Occasionally they are seen in cages, being chiefly fed on soaked bread, or meal and water; they appear also fond of cherries, strawberries, currants, raisins, and figs, so that we may justly consider them, like the Cassicans

and Starlings, as omnivorous, though in a less degree.* They sing, and appear lively in confinement or domestication, and become very docile, playful, and friendly, even going in and out of the house, and sometimes alighting at a whistle on the hand of their protector. The young, for a while, require to be fed on animal food alone, and the most suitable appears to be fresh minced meat, soaked in new milk. In this way they may be easily raised almost from the first hatching; but at this time vegetable substances appear to afford them no kind of nutrition, and at all times they will thrive better, if indulged with a little animal food or insects, as well as hard-boiled eggs.

The Baltimore Bird is 7 inches in length; the bill bluish black. Exterior edges of the greater wing-coverts, edges of the secondaries, and part of those of the primaries, white. The tail-feathers under the coverts, orange; the 2 middle ones from thence to the tips, black; the next 5 on each side black near the covert, and orange towards the extremities. Legs and feet lead-color. The iris, hazel. — The white on the wing-coverts in the *female* is yellowish; the under parts, not so brilliant an orange, approaching scarlet on the breast, are, in this sex, much duller; the back also of a dull black, and each feather skirted with olive yellow. The wing-feathers of a deep dirty brown. The tail olive yellow; but in others, according to age, the 2 middle feathers become partially or wholly black. Some of the *males* which arrive in the spring have the tail wholly yellow; at times, only the 2 middle feathers black, and frequently the black on the back is still skirted with orange, and the tail tipped with the same color. It would therefore appear that 2 or 3 seasons are requisite to complete the plumage of this brilliant bird. The male moults, before his departure, into the same brilliant dress in which he arrives.

* The true Oriole, scarcely distinct from our *Vireo*, lives upon insects, is very fond of cherries and fresh figs, and will also eat peas.

SPURIOUS OR ORCHARD ORIOLE.

(*Icterus spurius*, BONAP. *Oriolus spurius*, LIN. WILSON, i. p. 64. pl. 4. fig. 1. [female.] fig. 2. [a male of 2 years.] fig. 3. [a male of 3 years.] fig. 4. [the adult male.] AUDUBON, pl. 42. Philad. Museum, No. 1508.)

SP. CHARACT.—Tail wedge-formed. — *Male* bright chesnut; the head and neck, back, wings, and tail, black. — *Female* and *young* of one year, yellow olive, inclining to brown, beneath yellow; wings and tail dusky brown. — The *young male of more than one year*, the same, but with the throat black.

THIS smaller and plainer species has many of the habits of the preceding, and arrives in Pennsylvania about a week later. They enter the southern boundary of the United States early in March, and remain there until October.* They do not however, I believe, often migrate farther north and east, than the state of Connecticut. I have never seen or heard of them in Massachusetts, any more than my scientific friend, and a close observer, Mr. C. Pickering. Their stay in the United States, it appears from Wilson, is little more than 4 months; as they retire to South America early in September, or, at least, do not winter in the Southern States. According to my friend Mr. Ware, they breed at Augusta, in Georgia; and Mr. Say observed the Orchard Oriole at Major Long's winter quarters on the banks of the Missouri. Audubon has also observed the species towards the sources of the Mississippi, as well as in the state of Maine. The same author likewise remarks, that their northern migrations, like those of the Baltimore Bird, are performed by day, and that the males arrive a week or ten days sooner

* Audubon's Ornithological Biography, vol. i. p. 224.

than their mates. They appear to affect the elevated and airy regions of the Alleghany mountains, where they are much more numerous than the Baltimore.

The Orchard Oriole is an exceedingly active, sprightly, and restless bird; in the same instant almost, he is on the ground after some fallen insect, fluttering amidst the foliage of the trees, prying and springing after his lurking prey, or flying, and tuning his lively notes, in a manner so hurried, rapid, and seemingly confused, that the ear is scarce able to thread out the shrill and lively syllables of his agitated ditty. Between these hurried attempts, he also gives others, which are distinct and agreeable; but still, his tones are neither so full nor so mellow as those of the brilliant and gay Baltimore. In choosing the situation of his nest he is equally familiar with that bird, and seems to enjoy the general society of his species, suspending his most ingenious and pensile fabric from the bending twig of the apple-tree, which, like the nest of the other, is constructed in the form of a pouch from 3 to 5 inches in depth, according to the strength or flexibility of the tree on which he labors; so that in a weeping-willow, according to Wilson, the nest is one or two inches deeper, than if in an apple-tree, to obviate the danger of throwing out the eggs and young by the sweep of the long, pendulous branches. It is, likewise, slighter, as the crowding leaves of that tree afford a natural shelter of considerable thickness. That economy of this kind should be studied by the Orchard Oriole, will scarcely surprise so much, as the laborious ingenuity, and beautiful tissue of its nest. It is made exteriorly of a fine woven mat of long, tough, and flexible grass, as if darned with a needle. The form is hemispherical, and the inside is lined with downy substances; sometimes the wool of the seeds of the Button-wood, forming thus a commodious and soft bed for the

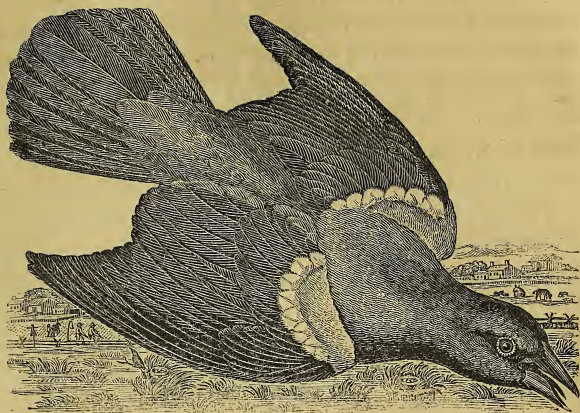
young. This precaution of a warm lining, as in the preceding species, is, according to Audubon, dispensed with in the warm climate of Louisiana. The eggs are 4 or 5, of a very pale bluish tint, with a few points of brown, and spots of dark purple, chiefly disposed at the greater end. The female sits about 14 days; and the young continue in the nest 10 days before they become qualified to flit along with their parents; but they are generally seen abroad about the middle of June. Previously to their departure, the young, leaving the care of their parents, become gregarious, and assemble sometimes in flocks of separate sexes, from 30 to 40 or upwards; in the south frequenting the savannahs, feeding much on crickets, grasshoppers, and spiders; and at this season their flesh is much esteemed by the inhabitants.* Wilson found them easy to raise from the nest, but does not say on what they were fed, though they probably require the same treatment as the Baltimore Oriole. According to Audubon, they sing with great liveliness in cages, being fed on rice and dry fruits, when fresh cannot be procured. Their ordinary diet, it appears, is caterpillars and insects, of which they destroy great quantities. In the course of the season they likewise feed on various kinds of juicy fruits and berries, but their depredations on the fruits of the orchard are very unimportant.

The Orchard Oriole is about $6\frac{1}{2}$ inches in length. The bill and legs of the same color nearly as in the preceding species; the former, however, is a little bent, and very sharp at the point. The iris hazel. The *male*, in the 3d year, is mottled on the upper parts of the back with black and olive, and on the belly, sides, and breast the reddish bay begins irregularly to appear, blended with yellow; and generally the 2 middle feathers of the tail are black, the others being centered with the same color.

* Audubon's Ornithological Biography, vol. i. p. 224.

Subgenus — XANTHORNUS. (*Cuv. Bonap.*)

With the bill robust and straight, horizontally flattened above, and the frontal sinus ending in an acute but shallow angle. — The female somewhat less than the male. These birds are constantly gregarious, and live chiefly in meadows, or round open bushy swamps. They feed principally on insects and seeds; build in society, and construct convenient, but not very artful nests.



RED-WINGED BLACK-BIRD.

(*Icterus phæniceus*, DAUD. BONAP. AUDUBON, pl. 67. [the male, a small specimen]. *Sturnus prædatorius*, WILSON, 4. p. 30. pl. 30. fig. 1. [male in summer dress]. fig. 2. [female]. Philad. Museum, No. 1466, 1467.)

SP. CHARACT.—Black; lesser wing coverts vermilion red.—*Young and autumnal male*, above, with the feathers, skirted with ferruginous.—*Female*, dusky brown, varied with ferruginous and whitish, sometimes also with the lesser wing-coverts spotted with black and the red of the male.

THE Red-Winged Oriole in summer inhabits the whole of North America from Nova Scotia to Mexico, and is found in the interior of the continent from the 53d degree of latitude, probably to the sources of the Missouri. They are migratory north of Maryland, but pass the winter in great numbers in all the southern states, frequenting chiefly the settlements and rice and corn-fields, towards the sea-coast, where they move about like blackening clouds, rising suddenly at times with a noise like thunder,

and exhibiting amidst the broad shadows of their funereal plumage, the bright flashing of the vermilion with which their wings are so singularly decorated. After whirling a little distance, like the Starling, they descend as a torrent, and darkening the branches of the trees by their numbers, they commence a general concert that may be heard for more than two miles. This music seems to be something betwixt chattering and warbling; jingling liquid notes like those of the Bobolink with their peculiar *kong-quër-reē* and *bob ā le, o-bob ā leē*; then complaining chirps, jars, and sounds like saw-filing, or the motion of a sign-board on its rusty hinge, the whole constituting a novel and sometimes grand chorus of discord and harmony, in which the performers seem in good earnest, and bristle up their feathers, as if inclined, at least, to make up in quantity what their show of music may lack in quality.

When their food begins to fail in the fields, they assemble with the Purple Grakles, very familiarly around the corn-cribs and in the barn-yards, greedily and dexterously gleaning up every thing within their reach. In the month of March, Mr. Bullock found them very numerous and bold near the city of Mexico, where they followed the mules to steal a tithe of the barley with which they were fed.

From the beginning of March to April, according to the nature of the season, they begin to visit the Northern States in scattered parties, flying chiefly in the morning. As they wing their way towards the north, they seem to relieve their mutual toil by friendly chatter, and being the harbingers of approaching spring, their faults are forgot in the instant, and we cannot help greeting them as old acquaintances in spite of all their predatory propensities. Selecting their accustomed resort, they make the low meadows resound again with their usual notes, particularly

in the morning and evening before retiring to or leaving the roost; previous to settling themselves for the night, and before parting in the day, they seem all to join in a general chorus of liquid warbling tones, which would be very agreeable but for the interruption of the plaints and jarring sounds with which it is blended. They continue to feed in small parties in swamps and by slow streams and ponds till the middle or close of April, when they begin to separate in pairs. Sometimes, however, they appear to be partly polygamous, like their cousins the Cow Troopials, as amidst a number of females engaged in incubation, but few of the other sex appear associated with them; and as among the Bobolinks, sometimes two or three of the males may be seen in chase of an individual of the other sex, but without making any contest or show of jealous feud with each other, as a concubinage rather than any regular mating seems to prevail among the species.

Assembled again in their native marshes, the male perched upon the summit of some bush surrounded by water, in company with his mates, now sings out, at short intervals, his guttural *kong-quër-ree*, sharply calls *t'tshéah*, or, when disturbed, plaintively utters *'tshāy*; to which his companions, not insensible to these odd attentions, now and then return a gratulatory cackle or reiterated chirp, like that of the native Meadow Lark. As a pleasant and novel, though not unusual accompaniment, perhaps the great Bull Frog elevates his green head and brassy eyes from the stagnant pool, and calls out in a loud and echoing bellow, *'w'rroo*, *'warroo*, *'worrörroo*, *'boāroo*, which is again answered, or, as it were, merely varied, by the creaking or cackling voice of his feathered neighbours. This curious concert, uttered as it were from the still and sable waters of the Styx, is at once both ludicrous and solemn. About the end of April or early in May,

in the middle and northern parts of the union the Red-Winged Blackbirds commence constructing their nests. The situation made choice of is generally in some marsh, swamp, or wet meadow, abounding with alder (*Alnus*) or Button-bushes (*Cephalanthus*); in these, commonly at the height of 5 to 7 feet from the ground, or sometimes in a detached bush or tussock of rank grass in the meadow, the nest is formed. Outwardly it is composed of a considerable quantity of the long dry leaves of Sedge-grass (*Carex*), or other kinds collected in wet situations, and occasionally the slender leaves of the flag (*Iris*) carried round all the adjoining twigs of the bush by way of support or suspension, and sometimes blended with strips of the lint of the swamp *Asclepias* or silk-weed. The whole of this exterior structure is also twisted in and out, and carried in loops from one side of the nest to the other, pretty much in the manner of that of the Orioles, but made of less flexible and handsome materials. The large interstices that remain, as well as the bottom, are then filled in with rotten wood, marsh-grass roots, fibrous peat, or mud, so as to form, when dry, a stout and substantial, though concealed shell, the whole very well lined with fine dry stalks of grass or with slender rushes, (*Scirpi*.) When the nest is in a tussock, it is also tied to the adjoining stalks of herbage; * but when on the ground this precaution of fixity is laid aside. The eggs are from 3 to 5, white, tinged with blue, marked with faint streaks of light purple, and long straggling serpentine lines and dashes of very dark brown; the markings not very numerous, and disposed almost wholly at the greater end. They raise two broods commonly in the season. If the nest is approached while the female is sitting, or when

* This description, drawn from nature, agrees very nearly with that given by Pennant, Arctic Zool. vol. i. p. 300.

the young are hatched, loud cries of alarm are made by both parties, but more particularly by the restless male, who flies to meet the intruder, and generally brings together the whole sympathizing company of his fellows, whose nests sometimes are within a few yards of each other. The female cries 'queàh, 'queàh, and at length, when the mischief they dreaded is accomplished, the louder notes give way to others which are more still, slow, and mournful; one of which resembles *t'ái, t'ái*, or *téa* and *t'tshedh*. When the young are taken or destroyed, the pair continue restless and dejected for several days, but from the force of their gregarious habit they again commence building, usually soon after, in the same meadow or swamp with their neighbours. In the latter part of July and August the young birds, now resembling the female, begin to fly in flocks, and release themselves partly from dependence on their parents, whose cares up to this time are faithful and unremitting; a few males only seem inclined to stay and direct their motions.

About the beginning of September, these flocks, by their formidable numbers, do great damage to the unripe corn, which is now a favorite repast, and they are sometimes seen whirling and driving over the devoted corn-fields and meadows so as to darken the air with their numbers. The destruction at this time made among them by the gun and the Hawks produces but little effect upon the remainder, who continue fearlessly, and in spite of all opposition, from morning to night, to ravage the corn-fields while any thing almost remains to be eaten. The farms near the sea-coast, or alluvial situations, however, are their favorite haunts; and towards the close of September, the corn becoming hard, it is at length rejected for the seeds of the wild rice (*Zizania aquatica*), and other aquatic plants, which now begin to ripen, and afford

a more harmless and cheap repast to these dauntless marauders. At this time, also, they begin to roost in the reeds, whither they repair in large flocks every evening from all the neighbouring quarters of the country ; upon these they perch or cling so as to obtain a support above the surrounding waters of the marsh. When the reeds become dry, advantage is taken of the circumstance to destroy these unfortunate gormandizers by fire ; and those who might escape the flames are shot down in vast numbers as they hover and scream around the spreading conflagration. Early in November, they generally leave the northern and colder states ; with the exception of straggling parties, who still continue to glean subsistence, in the shelter of the sea-coast, in Delaware, Maryland, and even in the cold climate of the state of Massachusetts.*

To those who seem inclined to extirpate these erratic depredators, Wilson justly remarks, as a balance against the damage they commit, the service they perform in the spring season, by the immense numbers of insects and their larvæ which they destroy, as their principal food, and which are of kinds most injurious to the husbandman. Indeed Kalm remarked, that after a great destruction made among these and the common Black-birds for the legal reward of 3 pence a dozen, the Northern States, in 1749, experienced a complete loss of the grass and grain crops, which were now devoured by insects.

Like the Troopial (*Oriolus icterus*, LATH.) the Red-wing shows attachment and docility in confinement, becoming, like the Starling, familiar with those who feed him, and repaying the attention he receives, by singing his monotonous ditty pretty freely, consisting, as we have already remarked, of various odd, grating, shrill, guttural,

* My friend, Mr. S. Green, of Boston, assures me, that he has seen these birds near Newton, in a Cedar Swamp, in January.

and sometimes warbling tones, which become at length somewhat agreeable to the ear ; and instances are said to have occurred of their acquiring the power of articulating several words pretty distinctly.

The flesh of this bird is but little esteemed, being dark and tough like that of the Starling ; yet in some of the markets of the United States they are at times exposed for sale.

The *male* Red-winged Troopial is from $8\frac{1}{2}$ to 10 inches in length : of a glossy black, with the exception of the lesser wing-coverts, in which the lower rows of feathers are of a reddish cream-color, the rest of a bright scarlet. Legs and bill black. Irids hazel. Tongue nearly as long as the bill, slender, and torn at the end.

The *female* is from 8 to 9 inches long. Throat and below thickly streaked with black and whitish, or cream color ; under the throat sometimes pale reddish. Above black, the feathers edged with pale brown, white, or bay. *Young male*, black, the shoulder of the wing the color of red lead, fading at the edges into buff yellow. Above, with the feathers edged with brownish ferruginous and brownish white, except the rump, in which the feathers are faintly edged with cinereous ; over the eye-brows a pale line. Beneath, from the chin downwards, black, the feathers edged with greyish white.

NOTE. The size and markings of this bird vary in so extraordinary a degree, that, with Du Pratz, I should, from the inspection of a few specimens, have been inclined to create a second species. The old males are sometimes only $8\frac{1}{2}$ inches in length, the largest 10. The females likewise vary from 8 to 9 inches. In the young female also the feathers are edged with ferruginous and whitish, and beneath and around the base of the bill nearly yellow. Other females have the edges of the feathers as described above. Some have the shoulder of the wing almost as red as in the male, but the same feathers spotted with dusky. As females of the same age, apparently, are without this mark, I suppose it to be accidental. Taking into consideration, then, the extreme differences in the size of either sex, the supposed disparity of the pair vanishes. This occasional diminution of size is probably, as in other birds, peculiar to the latest broods.

YELLOW-HEADED TROOPIAL.

(*Icterus icterocephalus*, BONAP. AM. ORN. i. p. 26. pl. 4. [male]. fig. 2. [female]. Philad. Museum, No. 1528, 1529.)

SP. CHARACT. — Black; head, neck, and breast yellow-orange; with a white spot on the wing. — *Female* and young dark brown; wings without spots; throat whitish; also a rounded yellow patch on the breast.

THE Yellow-headed Blackbird or Troopial, though long known as an inhabitant of South America, was only recently added to the Fauna of the United States by Major Long's expedition. They were seen in great numbers near the banks of the River Platte, around the villages of the Pawnees, about the middle of May; and the different sexes were sometimes observed associated in separate flocks, as the breeding season had not yet probably commenced. The range of this fine species is, apparently, from Cayenne, in tropical America, to the banks of the river Missouri; though I have never seen them near that river in an excursion of 1600 miles. At all events, its visits are yet wholly confined to the west side of the Mississippi, beyond which, not even a straggler has yet been seen. They are known to assemble in dense flocks, and in all their movements, aerial evolutions, and predatory character, appear as the counterpart of their Red-winged relatives. They are also seen to frequent the ground in search of food, in the manner of the Cow-Bunting, or Troopial. In the spring season they wage war upon the insect tribes and their larvæ, like the Red-wings, but in autumn they principally depend, doubtless, on the seeds of vegetables. At Demerara, Waterton observed them in flocks, and, as might have been suspected from their habits, they were very greedy after

Indian corn. Their notes are said to be similar to those of the Red-winged Troopial, but more agreeable, though Waterton bluntly, and perhaps truly, asserts, that their attempts at song, compared with the true Troopial, are "not worth attending to." The very beautiful, accurate, and animated figures of the two sexes of this species, given by Prince C. Bonaparte, leave nothing more to be desired in graphical execution.

The *male* of this species is $10\frac{1}{2}$ inches in length (according to Prince Bonaparte, but the figure purporting to be the size of life is only $9\frac{1}{4}$.) The bill dark horn-color. Feet black. The irids dark brown. The head, neck, and breast are brilliant orange-yellow, more vivid and silky on the head. The feathers round the base of the bill, chin, and a wide stripe passing through the eye, are black. The rest of the feathers glossy black, tinged with brownish. Some of the exterior wing-coverts are white with black tips, constituting 2 *white* spots on the wing. The 1st, 2d, and 3d primaries are longest and equal. Tail 4 inches long, slightly rounded. — The *female* $8\frac{1}{4}$ inches long (in the figure about the same size as the male, $9\frac{1}{4}$), dark brown, the margin of the feathers a shade lighter. The chin and throat whitish. On the breast a large round patch of yellow. On the lower part of the breast the feathers are skirted with white. — The *young* are very similar to the female.

Species related to the Bunting. (EMBERIZOIDES.)

In these the bill is straight, short, thick, conic, and not much pointed. The sinus at the base of the bill sharp and shallow.

NOTE. These are somewhat allied to the Finches; yet still more so to the birds of the preceding section.



COW TROOPIAL, OR COW BLACK-BIRD.

(*Icterus pecoris*, TEMM. AUDUBON, pl. 99. *Emberiza pecoris*, WILSON, 2. p. 145. pl. 18. fig. 1. [male]. fig. 2. [female]. fig. 3. [the young]. Philad. Museum, No. 6378, 6379.)

SP. CHARACT. — Glossy black; head and neck blackish-brown. — *Female* wholly sooty-brown, beneath pale. — *Young* similar to the female, with the breast spotted.

THE Cow-pen Bird, perpetually gregarious and flitting, is observed to enter the Middle and Northern States in the latter end of March or the beginning of April. They make their migration now chiefly under cover of the night, or early dawn; and as the season becomes milder they pass on to Canada, and perhaps follow the Warblers and other small birds into the farthest regions of the north, for they are seen no more after the middle of June,

until the return of autumn, when, with the colds of October, they again reappear in numerous and augmented flocks, usually associated with their kindred Red-wings, to whom they bear a sensible likeness, as well as a similarity in notes and manners. They pass the winter in the warmer parts of America as well as in the Southern States, where I have observed them in the ploughed fields, gleaning along with the Red-wings and the common Black-birds. They are also very familiar around the cattle, picking up insects which they happen to disturb, or that exist in their ordure. When on the ground, they scratch up the soil and appear very intent after their food. Sometimes even, infringing on the rights of the Plover, individuals, in the winter, frequent the margins of ponds in quest of aquatic insects and small shell-fish; and they may be seen industriously occupied in turning over the leaves of the water-plants to which they adhere. They also frequent occasionally the rice and corn fields, as well as their more notorious associates, but are more inclined to native food and insects at all times, so that they are more independent and less injurious to the farmer. As they exist in Mexico, it is probable, that they are also bred in the higher table land, as well as in the regions of the north. In Louisiana, however, according to Audubon, they are rare visitors at any season, seeming more inclined to follow their route through the maritime districts. Over these countries, high in the air, in the month of October, they are seen by day winging their way to the remoter regions of the south.

We have observed that the Red-wings separate in parties, and pass a considerable part of the summer in the necessary duties of incubation. But the Cow-pen Birds release themselves from all hindrance to their wanderings. The volatile disposition and instinct, which prompt

birds to migrate, as the seasons change and as their food begins to fail, have only a periodical influence; and for a while they remain domestic, and pass a portion of their time in the cares and enjoyments of the conjugal state. But with our bird, like the European Cuckoo, this season never arrives; the flocks live together without ever pairing. A general concubinage prevails among them, scarcely exciting any jealousy, and unaccompanied by any durable affection. From the commencement of their race, they have been bred as foundlings, in the nests of other birds, and fed by foster-parents, under the perpetual influence of delusion and deception, and by the sacrifice of the concurrent progeny of the nursing birds! Amongst all the feathered tribes hitherto known, this and the European Cuckoo, with a few other species indigenous to the old continent, are the only kinds who never make a nest or hatch their young. That this character is not a vice of habit, but a perpetual instinct of nature, appears from various circumstances, and from none more evidently than from this, that the eggs of the Cow Troopial are always earlier hatched than those of the foster-parent, a singular and critical provision, on which perhaps the existence of the species depends. For did the natural brood of the deceived parent come first into existence, the strange egg, on which they sat, would generally be destroyed.

The number of nurses selected by this vagrant is somewhat considerable. The greatest favorite appears to be the *Red-eyed Fly-catcher*, the *White-eyed* species, and the *Maryland Yellow-throat*; but the *Blue-bird*, *Indigo-bird*, *Chipping-Sparrow*, *Song-Sparrow*, *Blue-eyed Yellow Warbler*, *Blue-grey Fly-catcher*, *Golden-crowned* and *Wilson's Thrush*, are also at times enlisted in the number of foster parents for the black and

greedy brood of our Cow-bird. When the female is disposed to lay, she appears restless and dejected, and separates from the unregarding flock. Stealing through the woods and thickets, she pries into the bushes and brambles for the nest that suits her, into which she darts, in the absence of its owner, and in a few minutes is seen to rise on the wing, cheerful and relieved from the anxiety that oppressed her, and proceeds back to the flock, she had so reluctantly forsaken. If the egg be deposited in the nest alone, it is uniformly forsaken; but if the nursing parent have any of her own, she immediately begins to sit. The Red-eyed Fly-catcher, in whose beautiful basket-like nests I have observed these eggs, proves a very affectionate and assiduous nurse to the uncouth foundling. In one of these I found an egg of each bird, and the hen already sitting.* I took her own egg and left the strange one; she soon returned, and, as if sensible of what had happened, looked with steadfast attention, and shifted the egg about, then sat upon it, but soon moved off, again renewed her observation, and it was a considerable time before she seemed willing to take her seat; but at length I left her on the nest. Two or three days after, I found that she had relinquished her attention to the strange egg, and forsaken the premises. Another of these birds, however, forsook the nest on taking out the Cow-bird's egg, although she had still 2 of her own left. The only example, perhaps, to the contrary of deserting the nest when solely occupied by the stray egg, is in the Blue-bird, who, attached strongly to the breeding places, in which it often continues for several years, has been known to lay, though with apparent reluctance, after the deposition of the Cow-bird's egg. My friend,

* I have observed this present season (1831) the hen sitting on 2 eggs, and one of the Cow-bird.

Mr. C. Pickering, found two nests of the Blue-eyed Yellow-warbler, in which had been deposited an egg of the Cow-bird previously to any of their own; and unable to eject it, they had buried it in the bottom of the nest and built over it an additional story! I also saw, in the summer of 1830, a similar circumstance with the same bird, in which the Cow-bird's egg, though incarcerated, was still visible on the upper edge, but could never have been hatched. At times, I think it probable, that they lay in the nests of larger birds, who throw out the egg, or that they drop their eggs on the ground without obtaining a deposit, as I have found an egg of this kind thus exposed and broken. I have also remarked sometimes 2 of these eggs in the same nest, but in this case one of them commonly proves abortive.

The most usual nurse of this bird appears to be the Red-eyed Vireo, who commences sitting as soon as the Cow-bird's egg is deposited. On these occasions, I have known the Vireo to begin her incubation with only an egg of each kind, and in other nests I have observed as many as 3 of her own, with that of the intruder. From the largeness of the strange egg, probably the nest immediately feels filled, so as to induce the nurse directly to sit. This larger egg, brought nearer to the body than her own, is consequently better warmed and sooner hatched; and the young of the Cow-bird, I believe, appears about the 12th or 13th day of sitting. The foundling is very faithfully nursed by the affectionate Vireo, along with her own brood, who make their appearance about a day later than the Troopial. From the great size of the parasite, the legitimate young are often stifled, and, when dead, are conveyed, as usual, by the duped parent to a distance before being dropped; but they are never found immediately beneath the nest, as would invariably happen

if they were ejected by the young Troopial. Indeed, as far as I have had opportunity of observing, the foundling shows no hostility to the natural brood of his nurses, but he nearly absorbs their whole attention, and early displays his characteristic cunning and self-possession. When fully fledged, they quickly desert their foster-parent, and skulk about in the woods, until, at length, they instinctively join company with those of the same feather, and now becoming more bold, are seen in parties of 5 or 6, in the fields and lanes, gleaning their accustomed subsistence. They still, however, appear shy and watchful, and seem too selfish to study any thing more than their own security and advantage.

The egg of this bird is almost oval, scarcely larger than that of the Blue-bird, thickly sprinkled with points and confluent touches of olive brown, of two shades, somewhat more numerous at the greater end, on a white ground tinged with green. But in some of these eggs the ground is almost pure white, and the spots nearly black.

The song of the Cow-bird is guttural and unmusical, uttered with an air of affectation, and accompanied by a bristling of the feathers and a swelling of the body in the manner of the Turkey. These are also all the notes of the species in the season of their attachment; so that their musical talent rates lower than that of any other bird perhaps in the genus. Sometimes the tones of the male resemble the liquid clinking of the Bobölink and Red-winged Black-bird. Sitting on the summit of a lofty branch, he amuses himself perhaps for an hour with an occasional '*kluck* '*tseē*, the latter syllable uttered in a drawling hiss like that of the Red-wing; accompanied by his mates, he also endeavours to amuse them by his complaisant chatter; and watching attentively for their safety, they flit together at the instant he utters the loud

tone of alarm ; and they are always shy and suspicious of the designs of every observer. On a fine spring morning, however, perched towards the summit of some tree in the forest, where they seek rest after their twilight wanderings, small and select parties may be seen gratefully basking in the mild beams of the sunshine. The male on such occasions, like many other egotists, seems as proud of his uncouth jargon, and as eager to please his favorite companions, as the sentimental Nightingale with his pathetic and varied lay.

The length of this species is 7 inches, its breadth 11. The head and neck blackish brown ; the rest black, glossed with violet on the breast, and with greenish above. Legs and claws black. Iris hazel.



✓ RICE BUNTING, OR BOB-O-LINK.

(*Icterus agripennis*, BONAP. AUDUBON, pl. 54. ✓ *Emberiza oryzivora*, WILSON, ii. p. 48. pl. 12. fig. 1. [male in spring dress,] fig. 2. [female.] Philad. Museum, No. 6026.)

SP. CHARACT.—Tail feathers very acute.—Adult *male* in spring dress, black; the hind head yellowish white; scapulars, rump, and tail coverts, white, tinged with ash.—*Female*, *young*, and *male*, in early autumn and winter dress, varied with brownish black and brownish yellow; beneath dull yellow. The *male* with much more yellow.

THE whole continent of America, from Labrador to Mexico, and the great Antilles, are the occasional residence of this truly migratory species. About the middle of March, or beginning of April, the cheerful Bob-o-link makes his appearance in the southern extremity of the United States, becoming gradually arrayed in his nup-

tial livery, and accompanied by troops of his companions, who often precede the arrival of their more tardy mates.* Their wintering resort appears to be rather the West Indies than the tropical continent, as their migrations are observed to take place generally to the east of Louisiana, where their visits are rare and irregular.† At this season also they make their approaches chiefly by night, obeying, as it were, more distinctly, the mandates of an overruling instinct, which prompts them to seek out their natal regions; while in autumn, their progress, by day only, is alone instigated by the natural quest of food. About the 1st of May the meadows of Massachusetts begin to re-echo their lively ditty. At this season, in wet places, and by newly ploughed fields, they destroy many insects and their larvæ, but while on their way through the Southern States, they cannot resist the temptation of feeding on the early wheat and tender barley. According to their success in this way, parties often delay their final northern movement as late as the middle of May, so that they appear to be in no haste to arrive at their destination at any exact period. The principal business of their lives however, the rearing of their young, does not take place until they have left the parallel of the 40th degree. In the savannahs of Ohio and Michigan, and the cool grassy meadows of New York, Canada, and New England, they fix their abode, and obtain a sufficiency of food throughout the summer, without molesting the harvest of the farmer, until the ripening of the latest crops of oats and barley, when, in their autumnal and changed dress, hardly now known as the same species, they sometimes show their taste for plunder, and flock together like the greedy and predatory Black-birds. Although they devour various

* Bartram's Travels, p. 295. (Ed. London.)

† Audubon, Ornithological Biography, i. p. 283.

kinds of insects and worms on their first arrival, I have found that their frequent visits among the grassy meadows were often also for the seeds they contain; and they are particularly fond of those of the Dock and Dandelion, the latter of which is sweet and oily. Later in the season, and previously to leaving their native regions, they feed principally on various kinds of grass seeds, particularly those of the *Panicums*, which are allied to millet. They also feed on crickets and grasshoppers, as well as beetles and spiders. Their nest is fixed on the ground in a slight depression, usually in a field of meadow grass, either in a dry or moist situation, and consists merely of a loose bedding of withered grass, so inartificial, as scarcely to be distinguishable from the rest of the ground around it. The eggs are 5 or 6, of a dull white, inclining to olive, scattered all over with small spots and touches of lilac brown, with some irregular blotches of dark rufous brown, chiefly disposed towards the larger end.

The males, arriving a little earlier than the other sex, now appear very vigorous, lively, and familiar. Many quarrels occur before the mating is settled; and the females seem at first very coy and retiring. Emulation fires the Bob-ø-link at this period, and rival songsters pour out their incessant strains of enlivening music from every fence and orchard tree. The quiet females keep much on the ground, but as soon as they appear, they are pursued by the ardent candidates for their affection, and if either seems to be favored, the rejected suitor is chased off the ground, as soon as he appears, by his more fortunate rival. The song of the male continues with little interruption as long as the female is sitting, and his chant, at all times very similar, is both singular and pleasant. Often, like the Skylark, mounted, and hovering on the wing, at a small height above the field, as he passes along from one tree

top or weed to another, he utters such a jingling medley of short variable notes, so confused, rapid, and continuous, that it appears almost like the blending song of several different birds. Many of these tones are very agreeable, but they are delivered with such rapidity that the ear can scarcely separate them. The general effect, however, like all the simple efforts of nature, is good, and when several are chanting forth in the same meadow, the concert is very cheerful, though monotonous, and somewhat quaint. Among the few phrases that can be distinguished, the liquid sound of *Bob-ō-lee*, or *Bob-o-link*, *Bob-o-linké*, is very distinct. To give an idea of the variable extent of song, and even an imitation, in some measure, of the chromatic period and air of this familiar and rather favorite resident, the boys of this part of New England make him spout among others, the following ludicrous dunning phrase, as he rises and hovers on the wing near his mate, “*’Bōb-ō-link, ’Bōb-ō-link, ’Tōm Dēnny ’Tōm Dēnny. — ’Come pāy me the twō ānd six pence you’ve owed more than a year ānd ā half ago! — ’tshě ’tshě ’tshě, ’tsh ’tsh ’tshé,*” modestly diving at the same instant down into the grass as if to avoid altercation. However puerile this odd phrase may appear, it is quite amusing to find how near it approaches to the time, and expression of the notes, when pronounced in a hurried manner. It would be unwise in the naturalist to hold in contempt any thing, however trifling, which might tend to elucidate the simple truth of nature. I therefore give the thing as I find it. This relish for song and merriment, confined wholly to the male, diminishes as the period of incubation advances, and when the brood begin to flutter around their parents and protectors, the song becomes less frequent, the cares of the parents more urgent, and any approach to the secret recess of their helpless family is

deplored with urgent and incessant cries, as they hover fearfully around the intentional or accidental intruder. They appear sometimes inclined to have a second brood, for which preparation is made while they are yet engaged in rearing the first; but the male generally loses his musical talent about the end of the first week in July; from which time, or somewhat earlier, his nuptial or pied dress begins gradually to be laid aside for the humble garb of the female. The whole, both young and old, then appear nearly in the same songless livery, uttering only a *chink* of alarm when surprised in feeding on the grass seeds, or the crops of grain which still remain abroad. When the voice of the Bob-o-link begins to fail, with the progress of the exhausting moult, he flits over the fields in a restless manner, and merely utters a broken '*böb'lee*, '*böb'lee*, or with his songless mate, at length, a '*weet'weet*, '*b'leet b'leet*, and a noisy and disagreeable cackling chirp. At the early dawn of day, while the tuneful talent of the species is yet unabated, the effect of their awakening and faltering voices from a wide expanse of meadows, is singular and grand. The sounds mingle like the noise of a distant torrent, which alternately subsides and rises on the breeze, as the performers awake or relapse into rest; it finally becomes more distinct and tumultuous, till with the opening day it assumes the intelligible character of their ordinary song. The young males, towards the close of July, having nearly acquired their perfect character, utter also in the morning, from the trees which border their favorite marshy meadows, a very agreeable and continuous low warble, more like that of the Yellow-bird than the usual song of the species; in fact, they appear now in every respect as Finches, and only become jingling musicians, when robed in their pied dress as Icteri!

About the middle of August, in congregating numbers, divested already of all selective attachment, vast foraging parties enter New York and Pennsylvania, on their way to the south. Here, along the shores of the large rivers, lined with floating fields of the Wild Rice,* they find an abundant means of subsistence during their short stay; and as their flesh, now fat, is little inferior to that of the European Ortolan, the *Reed* or *Rice birds*, as they are then called in their Sparrow-dress, form a favorite sport for gunners of all descriptions, who turn out on the occasion, and commit prodigious havock among the almost silent and greedy roosting throng. The markets are then filled with this delicious game, and the pursuit, both for success and amusement, along the picturesque and reedy shores of the Delaware, and other rivers, is second to none but that of *Rail-shooting*. As soon as the cool nights of October commence, and as the Wild Rice crops begin to fail, the Reed-birds take their departure from Pennsylvania and New Jersey, and in their further progress through the southern States they swarm in the Rice fields, and before the crop is gathered they have already made their appearance in the islands of Cuba and Jamaica, where they also feed on the seeds of the Guinea grass,† become so fat as to deserve the name of '*Butter-birds*,' and are in high esteem for the table.

The Rice-Troopial is $7\frac{1}{2}$ inches long, and $11\frac{1}{2}$ in extent. The dress of the male, on arriving, is with the upper part of the head, wings, tail, sides of the neck, and whole lower parts, black; the feathers frequently skirted with brownish yellow, but more particularly so as he puts on the livery of the female; the back of the head yellowish white; scapulars, rump, and tail coverts white, and all except the first tinged with ash. Feathers of the tail sharp at the end, (as among the Woodpeckers.) Iris hazel. Bill bluish black; in the female, young bird, and autumnal male, pale flesh-color.

* *Zizania* species,

† *Sorghum*.

§ 2. *Birds related to the Crow.* (CORACES.)

In these the bill is cultrate, and the edges sharp. The outer toe is also free, and scarcely united at base to the middle one.

AMERICAN BLACKBIRDS. (QUISCALUS. Vieill.)

With the BILL bare, compressed from the base, and entire; the edges sharp, and somewhat bent inwards; the upper mandible carried back so as to form an acute angle on the forehead, curved from the middle, projecting considerably over the lower, and provided with a long keel within. NOSTRILS oval, half closed by a membrane. The TONGUE cartilaginous, flattened, torn at the sides, and cleft at the point. The *tarsus* a little longer than the middle toe, the lateral toes nearly equal, with the inner free, and the outer united at base to the middle one. *Wings* moderate in length; the 1st primary equal to the 5th, and but little shorter than the 2d, 3d, and 4th, which are longest. The *tail* composed of 12 feathers, and more or less rounded.

The *male* black; *female* generally brownish. The young differing from the adult. They moult annually, but, by the wearing of the tips of the feathers, one species undergoes an additional change like the Starling. — They are gregarious, retiring to warmer climates in winter; usually build socially in trees, and lay about 5 eggs. Their flesh is dark and not esteemed.

GREAT CROW-BLACKBIRD.

(*Quiscalus major*, VIEILL. BONAP. Am. Orn. vol. i. p. 35. pl. 4. fig. 1. [male.] fig. 2. [female.] Philad. Museum, No. 1582, 1583.)

SP. CHARACT. — Glossy-black; tail wedge-shaped, reaching very far beyond the wings (nearly 5 inches); bony keel (of the upper mandible) small; length 16 inches. — *Female* light brown, beneath and eye-brows whitish: length $12\frac{1}{2}$ inches.

THIS large and Crow-like species, sometimes called the Jackdaw, inhabits the southern parts of the Union only, particularly the states of Georgia and Florida, where they are seen as early as the close of January or beginning of February, but do not begin to pair before March, previously to which season the sexes are seen in separate flocks. But about the latter end of November, they quit even the mild climate of Florida, generally, and seek winter quarters probably in the West Indies, where they are known to be numerous, as well as in Mexico and Louisiana; but they do not ever extend their northern migrations as far as the Middle States. Previous to their departure, at the approach of winter, they are seen to assemble in large flocks, and every morning flights of them, at a great height, are seen moving away to the south.

Like most gregarious birds, they are of a very sociable disposition, and are frequently observed to mingle with the common Crow-Blackbirds. They assemble in great numbers among the sea-islands, and neighbouring marshes on the main land, where they feed at low water, on the oyster-beds and sand-flats. Like Crows, they are omnivorous, their food consisting of insects, corn, and small grain, so that by turns they may be viewed as the friend or plunderer of the planter.

The note of this species is louder than that of the common kind, and some of its jarring tones are said to bear a resemblance to the noise of a watchman's rattle. They are only heard to sing in the spring, and their concert, though inclining to melancholy, is not altogether disagreeable. Their nests are built in company, on reeds and bushes, in the neighbourhood of marshes and ponds; they lay about 5 eggs which are whitish, blotched and lined nearly all over with dusky olive.

The general appearance of the male is black, but the head and neck have bluish-purple reflections; the rest presents shades of steel-blue, excepting the back, rump, and middling wing-coverts which are glossed with copper green; the vent, inferior tail coverts, and thighs are plain black. The tail, wedge-shaped, is nearly 8 inches in length, and like that of the common species, is capable of assuming a boat-shaped appearance. Iris pale yellow. The bill and feet black. The *female* is of a light dusky brown, with some feeble greenish reflections, and beneath of a dull brownish white. The *young*, at first, resemble the female, but have the irids brown, and gradually acquire their appropriate plumage.



COMMON CROW-BLACKBIRD.

(*Quiscalus versicolor*, VIEILL. AUDUBON, pl. 7. [stealing corn, very spirited and natural.] BONAP. Am. Orn. vol. ii. p. 42. pl. 5. fig. 1. [female.] *Gracula quiscal*, WILSON, iii. p. 44. pl. 21. fig. 4. [male.])

SP. CHARACT. — Glossy-black; tail wedge-formed, extending far beyond the wings (nearly 3 inches); bony keel within the bill large; length about $11\frac{1}{2}$ inches; vertical breadth of the bill at base nearly $\frac{1}{2}$ an inch. — *Female* similar to the male, but somewhat less brilliant: length 11 inches.

THIS very common bird is an occasional or constant resident in every part of America, from Hudson's Bay and the northern interior to the Great Antilles, within the tropic. In most part of this wide region they also breed, at least from Nova Scotia to Louisiana, and probably farther south. Into the states north of Virginia they begin to migrate from the beginning of March to April, leaving those countries again in numerous troops about

the middle of November. Thus assembled from the north and west in increasing numbers, they wholly overrun, at times the warmer maritime regions, where they assemble to pass the winter in the company of their well known cousins the Red-winged Troopials or Blackbirds; for both impelled by the same predatory appetite, and love of comfortable winter quarters, are often thus accidentally associated in the plundering and gleaning of the plantations. The amazing numbers in which the present species associate are almost incredible. Wilson relates that on the 20th of January, a few miles from the banks of the Roanoke in Virginia, he met with one of those prodigious armies of Blackbirds, which, as he approached, rose from the surrounding fields with a noise like thunder, and descending on the stretch of road before him, covered it and the fences completely with black; rising again, after a few evolutions, they descended on the skirt of a leafless wood, so thick as to give the whole forest, for a considerable extent, the appearance of being shrouded in mourning, the numbers amounting probably to many hundreds of thousands. Their notes and screams resembled the distant sound of a mighty cataract, but strangely attuned into a musical cadence, which rose and fell with the fluctuation of the breeze, like the magic harp of Æolus.

Their depredations on the maize crop or Indian corn commence almost with the planting. The infant blades no sooner appear than they are hailed by the greedy Blackbird as the signal for a feast; and, without hesitation, they descend on the fields, and regale themselves with the sweet and sprouted seed, rejecting and scattering the blades around as an evidence of their mischief and audacity. Again, about the beginning of August, while the grain is in the milky state, their attacks

are renewed with the most destructive effect, as they now assemble as it were in clouds, and pillage the fields to such a degree that in some low and sheltered situations, in the vicinity of rivers, where they delight to roam, one fourth of the crop is devoured by these vexatious visitors. The gun, also, notwithstanding the havoc it produces, has little more effect than to chase them from one part of the field to the other. In the Southern States, in winter, they hover round the corn-cribs in swarms, and boldly peck the hard grain from the cob through the air openings of the magazine. In consequence of these reiterated depredations they are detested by the farmer as a pest to his industry; though, on their arrival their food for a long time consists wholly of those insects which are calculated to do the most essential injury to the crops. They, at this season, frequent swamps and meadows, and familiarly following the furrows of the plow, sweep up all the grub-worms, and other noxious animals, as soon as they appear, even scratching up the loose soil, that nothing of this kind may escape them. Up to the time of harvest, I have uniformly, on dissection, found their food to consist of these larvæ, caterpillars, moths, and beetles, of which they devour such numbers, that but for this providential economy, the whole crop of grain, in many places, would probably be destroyed by the time it began to germinate. In winter they collect the mast of the Beech and Oak for food, and may be seen assembled in large bodies in the woods for this purpose. In the spring season the Blackbirds roost in the cedars and pine trees, to which in the evening they retire with friendly and mutual chatter. On the tallest of these trees, as well as in bushes, they generally build their nests, which work, like all their movements, is commonly performed in society, so that 10 or 15 of them are often seen in the same

tree, and sometimes they have been known to thrust their nests into the interstices of the Fish-hawk's eyry, as if for safety and protection. They begin their breeding operations from the commencement of April to May. The nest is composed outwardly of mud, mixed with stalks and knotty roots of grass, and lined with fine dry grass and horse-hair. The eggs, usually 5 or 6, are of a dull green like those of the Crow, blotched and spotted with dark olive, more particularly towards the larger end. According to Audubon, the same species in the Southern States nests in the hollows of decayed trees, after the manner of the Woodpecker, lining the cavity with a few weeds and feathers. They seldom produce more than a single brood in the season. In the autumn, and at the approach of winter, numerous flocks after foraging through the day, return from considerable distances to their general roosts among the reeds. On approaching their station, each detachment, as it arrives, in straggling groups like crows, sweeps round the marsh in waving flight, forming circles; amidst these bodies, the note of the old reconnoitering leader may be heard, and no sooner has he fixed upon the intended spot, than they all descend and take their stations in an instant. At this time they are also frequently accompanied by the Ferruginous species, with which they associate in a friendly manner.

The Blackbird is easily tamed, sings in confinement, and may be taught to articulate some few words pretty distinctly. Among the variety of its natural notes, the peculiarly affected sibilant of the Starling is heard in the *wōttitshee, wōttitshee*, and whistle, which often accompanies this note. Their intestines and stomach are frequently infested by long, cylindric, tapering worms, which probably increase sometimes in such numbers as to destroy the bird.

The male is 12 inches long, and 18 in alar extent. The prevailing black color of the body is relieved by glossy reflections of steel blue, dark violet and green; the violet is most conspicuous on the head and breast, and the green on the hind part of the neck. The back, rump, and whole lower parts, with the exception of the breast, reflect a cupreous gloss. The wing-coverts, secondaries, and coverts of the tail, are light violet, with much of the red; the rest of the wings and rounded tail are black, with a steel-blue gloss. Iris silvery. — The *female* is rather less, but very similar in color, and glossy parti-colored reflections.

BLACK ORIOLE, or SLENDER-BILLED BLACK-BIRD.

(*Quiscalus baritus*, BONAP. *Gracula barita*, LIN. *Oriolus niger*, GM. LATHAM, i. p. 185. Black Oriole, PENNANT. BUF. pl. enlum. 534.)

SP. CHARACT. — Glossy black, with uniform bluish reflections faintly inclining to green on the wings; head and throat slightly edged with ferruginous; tail nearly even, extending beyond the wings more than 2 inches; osseous carina small; length $10\frac{1}{2}$ inches; vertical breadth of the bill at base about $\frac{1}{4}$ of an inch. — The *female* scarcely smaller, dull brownish; beneath and eyebrows whitish.

OF this species I know little more than that it is occasionally seen in this vicinity in the spring, and has habits very similar to the Ferruginous Blackbird. It is, however, distinguished at once, both from this and the common species, by its more slender elongated form, almost unvaried color, and general look even of a Thrush. According to Pennant, they migrate as far north as Hudson's Bay, arriving there about the beginning of June, and feed on insects and their larvæ, singing agreeably till the time of incubation, but afterwards only utter a chucking noise till the young take to flight, when they resume their song. They build their nests in trees, about

8 feet from the ground, and form them of a mixture of moss and grass. The eggs are 5, of a dark color, spotted with dusky. They assemble in great flocks, and retire southwardly in September. — Some part of this description probably applies to the Ferruginous Blackbird, with which it may easily be confounded. This species is also known to inhabit the West Indies, and South America.

The prevailing color of this bird is a deep glossy black, with faint steel-blue reflections inclining to greenish on the wings and tail. The head small, and the bill somewhat acute. The tail about 4 inches, almost exactly even, but with the outermost pair of feathers a little shorter than the rest. The individual I describe appears new moulted, and on the throat and breast, the feathers, less glossy black than above, are very faintly tipped with brownish dirty white; on the front, superciliary ridge, and back of the neck, these tips are dark chestnut, and scarcely visible on the latter. The bill, from the opening of the mouth, is about 9 lines, black, and a little paler at the base of the under mandible. The legs are black, the tarsus full an inch, or as long as in the Common Blackbird.

RUSTY BLACKBIRD.

(*Quiscalus ferrugineus*, BONAP. *Gracula ferruginea*, WILSON, iii. p. 41. pl. 21. fig. 3. [male, in the spring]. Philad Museum. No. 5514.)

SP. CHARACT. — Glossy-black, more or less skirted with ferruginous; tail rounded: the length about 9 inches; vertical breadth of the bill at base about $\frac{1}{4}$ of an inch: — *Female* nearly equal to the male, head, neck, and breast ferruginous-brown; the belly and rump ash color.

THIS species, less frequent than the preceding, is often associated with it, or with the Red-winged Troopial or the Cow-pen Bird, and, according to the season, they are found throughout America, from Hudson's Bay to Florida. Early in April, according to Wilson, they pass hastily through Pennsylvania, on their return to the north to breed. In the month of March he observed them on the

banks of the Ohio, near Kentucky river, during a snow storm. They arrive in the vicinity of Hudson's Bay about the beginning of June, and feed much in the manner of the Common Crow-Blackbird on insects, which they find on or near the ground. Dr. Richardson, saw them in the winter as far as the latitude of 53°. They sing in the pairing season, but become nearly silent while rearing their young; though when their brood release them from care they again resume their lay, and may occasionally be heard until the approach of winter. Their song is quite as agreeable and musical as that of the Starling, and greatly surpasses that of any of the other species. I have heard them singing until the middle of October.

They are said to build in trees, at no great distance from the ground, making a nest similar to the other species, and lay 5 eggs, rather dusky, and spotted with black. The young and old, now assembling in large troops, retire from the northern regions in September. From the beginning of October to the middle of November, they are seen in flocks through the Eastern States. During their stay in this vicinity, they assemble towards night to roost in or round the reed marshes of Fresh Pond, near Cambridge. Sometimes they select the willows by the water for their lodging, in preference to the reeds, which they give up to their companions the Crow-Blackbirds. Early in October they feed chiefly on grasshoppers and berries, and at a later period pay a transient visit to the corn-fields. They pass the winter in the Southern States, and like their darker relatives, make familiar visits to the barn-yard and corn-cribs. Wilson, remarks, that they are easily domesticated, and in a few days become quite familiar, being reconciled to any quarters while supplied with plenty of food.

The male is about 9 inches in length; and 14 in alar extent; at first appearing black, glossed with dark green; with the tail somewhat rounded; the plumage at length becomes more or less tintured with brown, or skirted with ferruginous. This change in the plumage appears to be analogous to that which takes place in the European Starling. Iris silvery. — The *female* is of about the same size with the male, and the *young* of the first season, of both sexes, are nearly of the same color.

CROWS. (CORVUS. *Lin.*)

IN these the BILL is thick, straight at the base, curved towards the point, and compressed and edged at the sides. NOSTRILS at the base of the bill, open, and hidden in advancing hairs. The *feet* have 3 toes before, and 1 behind, almost entirely divided to their base; the tarsus longer than the middle toe. The *wings* sharp-pointed; the 1st primary short; the 3d and 4th, longest. The tail of 12 feathers.

These birds appear to have the sense of smell very perfect. Suspicious to excess they instinctively avoid all sorts of snares; they have also the cunning and caprice, to take and hide things which are useless to them. They can be rendered amusing domestics; may be taught to articulate words, and to obey the voice of their master. All kinds of nourishment is acceptable to them; and they sometimes commit great waste, which they compensate in a measure, by the destruction they make of the larvæ of insects. The larger species occasionally prey on small birds, and most of them have a great appetite for eggs. They moult once a year. The sexes are scarcely distinguishable from each other, and the young, after casting their first feathers resemble the adult. They travel and unite always in bands; and are spread over the whole globe.

THE TRUE CROWS

Have the bill thick and stout; the feathers of the head, incapable of erection; the tail moderate in length, even, or slightly rounded. Their color is black, without any variegation. — They also walk gravely, and have an elevated and long sustained flight.



THE RAVEN.

(*Corvus corax*, LIN. WILSON, ix. p. 113. pl. 75. fig. 3. Philad. Museum, No. 175.)

SP. CHARACT.—Black; back glossed with bluish purple; tail much rounded extending far beyond the wings: 3d primary longest: (length about 26 inches.)

THE sable Raven has been observed and described from the earliest times, and is a resident of almost every country in the world; but is more particularly abundant in the western than the eastern parts of the United States. This ominous bird has been generally despised and feared by the superstitious, even more than the nocturnal Owl, though he prowls abroad in open day. He may be

considered as holding a relation to the birds of prey, feeding not only on carrion, but, occasionally seizing on weakly lambs, young hares, or rabbits, and seems indeed to give a preference to animal food ; but, at the same time, he is able to live on all kinds of fruits and grain, as well as insects, earth-worms, even dead fish, and in addition to all, is particularly fond of eggs, so that no animal seems more truly omnivorous than the Raven.

If we take into consideration his indiscriminating voracity, sombre livery, discordant croaking cry, with his ignoble, wild, and funereal aspect, we need not be surprised, that in times of ignorance and error, he should have been so generally regarded as an object of disgust and fear. He stood preëminent in the list of sinister birds, or those whose only premonition was the announcing of misfortunes ; and, strange to tell, there are many people yet in Europe, even in this enlightened age, who tremble and become uneasy at the sound of his harmless croaking. According to Adair, the southern aborigines also invoke the Raven for those who are sick, mimicking his voice ; and the natives of the Missouri, assuming black as their emblem of war, decorate themselves, on those occasions, with the plumes of this dark bird. But all the knowledge of the future, or interest in destiny, possessed by the Raven, like that of other inhabitants of the air, is bounded by an instinctive feeling of the changes which are about to happen in the atmosphere, and which he has the faculty of announcing by certain cries and actions produced by these external impressions. In the southern provinces of Sweden, as Linnæus remarks, when the sky is serene, the Raven flies very high, and utters a hollow sound, like the word *clong*, which is heard to a great distance. Sometimes he has been seen in the midst of a thunder storm, with the electric fire

streaming from the extremity of his bill,* a natural, though extraordinary phenomenon, sufficient to terrify the superstitious, and to stamp the harmless subject of it with the imaginary traits and attributes of a demon.

In ancient times when divination made a part of religion, the Raven, though a bad prophet, was yet a very interesting bird; for the passion for prying into future events, even the most dark and sorrowful, is an original propensity of human nature; accordingly, all the actions of this sombre bird, all the circumstances of its flight, and all the different intonations of its discordant voice, of which, no less than 64 were remarked, had each of them an appropriate signification; and there were never wanting impostors to procure this pretended intelligence, nor people simple enough to credit it. Some even went so far, as to impose upon themselves, by devouring the heart and entrails of the disgusting Raven, in the strange hope of thus appropriating its supposed gift of prophecy. †

The Raven indeed not only possesses a great many natural inflections of voice, corresponding to its various feelings, but it has also a talent for imitating the cries of other animals, and even mimicking language. According to Buffon, *colas* is a word which he pronounces with peculiar facility. Connecting circumstances with his wants, Scaliger heard one, which when hungry, learnt very distinctly to call upon *Conrad* the cook. The first of these words bears a great resemblance to one of the ordinary cries of this species, *kówallah, kówallah*. Besides possessing, in some measure, the faculty of imitating human speech, they are at times, capable of manifesting a durable attachment to their keeper, and become famil-

* Scala Naturalis, apud ALDROVAND. tom. i. page. 704.

† PORPHYR. De abstinendo ab animant. Lib. ii.

iar about the house. Pliny speaks of the Raven being tamed, and taught to chase like the Falcon ; and Scaliger affirms, that Louis the Twelfth had one that was trained to attack the Partridge. Albert saw another at Naples, which not only caught Partridges and Pheasants, but birds of its own species, when urged by the presence of the Falconer.

The sense of smell, or rather that of sight, is very acute in the Raven, so that he discerns the carrion, on which he often feeds, at a great distance. Thucydides even attributes to him the sagacity of avoiding to feed on animals which had died of the plague. Pliny relates a singular piece of ingenuity employed by this bird to quench his thirst ; he had observed water near the bottom of a narrow-necked vase, to obtain which, he is said to have thrown in pebbles, one at a time, until the pile elevated the water within his reach. Nor does this trait, singular as it is, appear to be much more sagacious than that of carrying up nuts and shell-fish into the air, and dropping them on rocks, for the purpose of breaking them to obtain their contents, otherwise beyond his reach ; facts observed by men of credit, and recorded as an instinct of the Raven, by Pennant and Latham. It is however seldom that this bird, any more than the rapacious kinds, feels an inclination for drinking, as their thirst is usually quenched by the blood and juices of their prey. The Ravens are also more social than the birds of prey, which arises from the promiscuous nature and consequent abundance of their food, which allows a greater number to subsist together in the same place, without being urged to the stern necessity of solitude or famine, a condition to which the true rapacious birds are always driven. The habits of this species are much more generally harmless, than is

usually imagined; they are useful to the farmer in the destruction they make of moles and mice, and are often very well contented with insects and earth-worms.

Though spread over the whole world, they are rarely ever birds of passage, enduring the winters even of the arctic circle,* or the warmth of Mexico, St. Domingo, and Madagascar.† They are particularly attached to the rocky eyries where they have been bred and paired. Throughout the year they are observed together in nearly equal numbers, and they never entirely abandon this adopted home. If they descend into the plain, it is to collect subsistence; but they resort to the low grounds more in winter than summer, as they avoid the heat and dislike to wander from their cool retreats. They never roost in the woods, like Crows; and have sufficient sagacity to choose in their rocky retreats a situation defended from the winds of the north, commonly under the natural vault formed by an extending ledge or cavity of the rock. Here they retire during the night in companies of 15 to 20. They perch upon the bushes which grow straggling in the clefts of the rocks; but they form their nests in the rocky crevices, or in the holes of the mouldering walls, at the summits of ruined towers; and sometimes upon the high branches of large and solitary trees. After they have paired, their fidelity appears to continue through life. The male expresses his attachment by a particular strain of croaking, and they are often observed caressing, by approaching their bills, with as much semblance of affection as the truest turtle doves. In temperate climates, the Raven begins to lay in the months of February or March. The eggs are 5 or 6, of a pale muddy bluish-green, marked with numerous spots and lines of dark olive-brown. She sits about 20 days, and

* Richardson, in Parry's Voyage.

† See Flacour.

during this time the male takes care to provide her with abundance of nourishment. Indeed, from the quantity of grain, nuts, and fruits, which have been found at this time in the environs of the nest, this supply would appear to be a store laid up for future occasions. Whatever may be their forethought regarding food, they have a well known propensity to hid things which come within their reach, though useless to themselves, and appear to give a preference to pieces of metal, or any thing which has a brilliant appearance. At Erfurt, one of these birds had the patience to carry and hide, one by one, under a stone in the garden, a quantity of small pieces of money, which amounted, when discovered, to 5 or 6 florins; and there are few countries which cannot afford similar instances of their domestic thefts.

Of the perseverance of the Raven in the act of incubation, Mr. White has related the following remarkable anecdote: in the centre of a grove near Selborne, there stood a tall and shapeless oak, which bulged out into a large excrescence near the middle of the stem. On this tree a pair of Ravens had fixed their residence for such a series of years, that the oak was distinguished by the title of "The Raven Tree." Many were the attempts of the neighbouring youths to get at this nest; the difficulty whetted their inclinations, and each was ambitious of accomplishing the arduous task; but when they arrived at the swelling, it jutted out so in their way, and was so far beyond their grasp, that the boldest lads were deterred, and acknowledged the undertaking to be too hazardous. Thus the Ravens continued to build, and rear their young in security, until the fatal day on which the wood was to be levelled. This was in the month of February, when these birds usually begin to sit. The saw was applied to the trunk, the wedges were driven, the woods echoed

to the heavy blows of the beetle or mallet, and the tree nodded to its fall; but still the devoted Raven sat on. At last, when it gave way, she was flung from her ancient eyry; and, a victim to parental affection, was whipped down by the twigs, and brought lifeless to the ground.

The young, at first more white than black, are fed by food previously prepared in the craw of the mother, and then disgorged by the bill, nearly in the manner of pigeons. The male, at this time, doubly vigilant and industrious, not only provides for, but defends his family vigorously from every hostile attack, and shows a particular enmity to the Kite, when he appears in his neighbourhood, pouncing upon him and striking with his bill, until sometimes both antagonists descend to the ground. The young are long and affectionately fed by the parents, and though they soon leave the nest, they remain, perching on the neighbouring rocks, yet unable to make any extensive flight, and pass the time in continual complaining cries, till the approach of the parent with food, when their note changes into *craw, craw, craw*. Now and then, as they gain strength, they make efforts to fly, and then return to their rocky roost. About 15 days after leaving the nest, they become so well prepared for flight as to accompany the parents out on their excursions from morning to night; and it is amusing to watch the progress of this affectionate association, the young continuing the whole summer to go out with the old in the morning, and as regularly return with them again in the evening, so that however we may despise the appetite of the Raven, we cannot but admire the instinctive morality of his nature.

Like birds of prey, the Ravens reject from the stomach, by the bill, the hard and indigestible parts of their food, as the stones of fruit, and the bones of small fish which they sometimes eat.

The Raven is remarkable also for his longevity, being known to live more than a century. Although closely related to the tribes of smaller birds, with which he is very properly associated, yet he may still be considered as holding the place also of an additional link in the order of nature between the two preceding tribes of rapacious birds, namely, the Vultures and Hawks.

The color of the Raven is a fine black, relieved with purple reflections above; tail black and much rounded. Bill strong, and, as well as the feet, black. The iris with 2 circles, greyish white, and cinereous brown. The female is a little smaller. It varies sometimes to total whiteness, or is of a yellowish white. Occasionally some parts of the body are white, and others black or rufous.

THE CROW.

(*Corvus corone*, LIN. WILSON, iv. p. 79. pl. 35. fig. 3. Phil. Museum, No. 1246.)

SP. CHARACT. — Black and glossy, with violet-colored reflections; the tail somewhat rounded, extending but little beyond the wings; the feathers of the tail acute; the 4th primary longest, with the 1st equal to the 9th. [Length $18\frac{1}{2}$ inches.]

THE Crow, like the Raven, which it greatly resembles, is a denizen of nearly the whole world. They are found even in New Holland, and the Philippine Islands; they are, however, rare in Sweden, where the Raven abounds, as they are in the western part of the United States, where this superior species likewise frequents; nor are they common in the warmer parts of the Union, in consequence of the same antipathy or persecution which they experience from the Vultures. They are also common in Siberia, and plentiful in the arctic deserts beyond the Lena.

The Crow is a constant and troublesomely abundant resident in most of the settled districts of North America. They only retire into the forests in the breeding season, which takes place from March to May. At this time they are dispersed through the woods in pairs, and roost in the neighbourhood of the spot which they have selected for their nest; and the conjugal union, once formed, continues for life. They are now very noisy and vigilant against any intrusion on their purpose, and at times appear influenced by mutual jealousy, but never proceed to any violence. The tree they select is generally lofty, and preference seems often given to some dark and concealing evergreen. The nest is formed externally of small twigs, coarsely interlaced together, plastered and matted with earth, moss, and long horse-hair, and thickly and carefully lined with large quantities of the last material, wool, or the finest fibres of roots, so as to form a very comfortable bed for the helpless and naked young. The eggs are 4 to 6, of a pale and dirty green, marked with numerous blotches and streaks of blackish brown or olive.

The male at this season is extremely watchful, reconnoitring the neighbourhood, and giving an alarm as any person happens to approach towards their nest, when both retire to a distance till the intruder disappears; and in order the better to conceal their helpless brood, they remain uncommonly silent, until these are in a situation to follow them on the wing. The male also carries food to his mate while confined to her eggs, and at times relieves her by sitting in her absence. In Europe, when the Raven, the Buzzard, or the Kestrel makes his appearance, the pair join instantly in the attack, and sometimes, by dint of furious blows, destroy their enemy; yet the Butcher-bird, more alert and courageous, not only resists, but often vanquishes the Crows, and carries off their

young. Like the Ravens, endued with an unrestrained and natural affection, they continue the whole succeeding summer to succour and accompany their offspring in all their undertakings and excursions.

The Crow is equally omnivorous with the Raven; insects, worms, carrion, fish, grain, fruits, and in short every thing digestible by any or all the birds in existence, being alike acceptable to this gormandizing animal. His destruction of bird-eggs is also very considerable. In Europe they are often detected feeding their voracious young with the precious eggs of the Partridge, which they very sagaciously convey by carefully piercing and sticking them expertly on the bill. They also know how to break nuts and shell-fish by dropping them from a great height upon the rocks below.* They visit even the snares, and devour the birds which they find caught, attacking the weak and wounded game. They also sometimes seize on young chickens and ducks, and have even been observed to pounce upon pigeons, in the manner of hawks, and with almost equal success. So familiar and audacious are they in some parts of the Levant, that they will frequent the courts of houses, and like harpies alight boldly on the dishes, as the servants are conveying in the dinner, and carry off the meat, if not driven away by blows. In turn however the Crow finds enemies too powerful for him to conquer, such as the Kite and Eagle Owl, who occasionally make a meal of this carrion bird, a voracious propensity which the Virginian Owl also sometimes exhibits towards the same species. Wherever the Crow appears, the smaller birds take the alarm, and vent upon him their just suspicions and reproaches. But it is only the re-

* It is related of a certain ancient philosopher, walking along the sea-shore to gather shells, that one of these unlucky birds, mistaking his bald head for a stone, dropped a shell-fish upon it, and thus killed at once a philosopher and an oyster.

doubtable King-bird who has courage for the attack, beginning the onset by pursuing and diving on his back from above, and harassing the plunderer with such violence, that he is generally glad to get out of the way and forego his piratical visit; in short, a single pair of these courageous and quarrelsome birds are sufficient to clear the Crows from an extensive corn-field.

The most serious mischief, of which the Crow is guilty, is that of pillaging the maize field. He commences at the planting-time, by picking up and rooting out the sprouting grain, and in the autumn, when it becomes ripe, whole flocks, now assembled at their roosting-places, blacken the neighbouring fields as soon as they get into motion, and do extensive damage at every visit, from the excessive numbers who now rush to the inviting feast.

Their rendezvous, or roosting-places, are the resort in autumn of all the Crows and their families for many miles round. The blackening silent train continues to arrive for more than an hour before sun-set, and some still straggle on until dark. They never arrive in dense flocks, but always in long lines, each falling into the file as he sees opportunity. This gregarious inclination is common to many birds in the autumn, which associate only in pairs in the summer. The forests and groves, stripped of their agreeable and protecting verdure, seem no longer safe and pleasant to the feathered nations. Exposed to the birds of prey, which daily augment in numbers; penetrated by the chilling blasts, which sweep without control through the naked branches, the birds, now impelled by an overruling instinct, seek in congregated numbers some general, safer, and more commodious retreat. Islands of reeds, dark and solitary thickets, and neglected swamps, are the situations chosen for their general diurnal retreats and roosts. Swallows, Black-birds, Rice-birds, and Crows

seem always to prefer the low shelter of reed-flats. On the river Delaware, in Pennsylvania, there are two of these remarkable Crow-roosts. The one mentioned by Wilson is an island near Newcastle, called the Pea-Patch, a low, flat, alluvial spot, just elevated above high-water mark, and thickly covered with reeds, on which the Crows alight and take shelter for the night. Whether this roost be now occupied by these birds or not, I cannot pretend to say, but in December, 1829, I had occasion to observe their arrival on Reedy Island, just above the commencement of the bay of that river, in vast numbers; and as the wind wafted any beating vessel towards the shore, they rose in a cloud, and filled the air with clamor. Indeed, their vigilant and restless *cawing* continued till after dark.

Creatures of mere instinct, they foresee no perils beyond their actual vision, and thus, when they least expect it, are sometimes swept away by an unexpected destruction. Some years ago, during the prevalence of a sudden and violent northeast storm, accompanied by heavy rains, the *Pea Patch* island was wholly inundated in the night, and the unfortunate Crows, dormant and bewildered, made no attempts to escape, and were drowned by thousands, so that their bodies blackened the shores the following day for several miles in extent.

The Crow, like many other birds, becomes injurious and formidable only in the gregarious season. At other times they live so scattered, and are so shy and cautious, that they are but seldom seen. But their armies, like all other great and terrific assemblies, have the power, in limited districts, of doing very sensible mischief to the agricultural interests of the community; and in consequence, the poor Crow, notwithstanding his obvious services in the destruction of a vast host of insects and their

larvæ, is proscribed as a felon in all civilized countries, and, with the wolves, panthers, and foxes, a price is put upon his head. In consequence, various means of ensnaring the outlaw have been had recourse to. Of the gun he is extremely cautious, and suspects its appearance at the first glance, perceiving with ready sagacity the wily manner of the fowler. So fearful and suspicious are they of human artifices, that a mere line stretched round a field is often found sufficient to deter these wily birds from a visit to the corn-field. Against poison he is not so guarded, and sometimes corn steeped in hellebore is given him, which creates giddiness and death. According to Buffon, pieces of paper in the form of a hollow cone, smeared inside with bird-lime, and containing bits of raw meat, have been employed. In attempting to gain the bait, the dupe becomes instantly hood-winked, and, as the safest course out of the way of danger, the Crow flies directly upwards to a great height, but becoming fatigued with the exertion, he generally descends pretty near to the place from which he started, and is then easily taken.

Another curious method, related by the same author, is that of pinning a live Crow to the ground by the wings, stretched out on his back, and retained in this posture by two sharp, forked sticks. In this situation, his loud cries attract other Crows, who come sweeping down to the prostrate prisoner, and are grappled in his claws. In this way each successive prisoner may be made the innocent means of capturing his companion. The reeds in which they roost, when dry enough, are sometimes set on fire also to procure their destruction; and, to add to the fatality produced by the flames, gunners are also stationed round to destroy those that attempt to escape by flight. In severe winters they suffer occasionally from famine and

cold, and fall sometimes dead in the fields. According to Wilson, in one of these severe seasons, more than 600 Crows were shot on the carcass of a dead horse, which was placed at a proper shooting distance from a stable. The premiums obtained for these, and the price procured for the quills, produced to the farmer nearly the value of the horse when living, besides affording feathers sufficient to fill a bed!

The Crow is easily raised and domesticated, and soon learns to distinguish the different members of the family with which he is associated. He screams at the approach of a stranger; learns to open the door by alighting on the latch; attends regularly at meal times; is very noisy and loquacious; imitates the sound of various words which he hears; is very thievish, given to hiding curiosities in holes and crevices, and is very fond of carrying off pieces of metal, corn, bread, and food of all kinds; he is also particularly attached to the society of his master, and recollects him sometimes after a long absence.

It is commonly believed and asserted in some parts of this country, that the Crows engage at times in general combat; but it has never been ascertained whether this hostility arises from civil discord, or the opposition of *two* different species, contesting for some exclusive privilege of subsisting-ground. It is well known that Rooks often contend with each other, and drive away, by every persecuting means, individuals who arrive among them from any other rookery.

The Crow is much smaller than the Raven, and is of a deep black with violet reflections. The bill and feet are also black. The iris hazel. (The European bird is 20 inches, or nearly.) The female is smaller, and the reflections of the plumage are less lively. It varies sometimes to yellowish or greyish white, and occasionally the plumage is more or less varied with white feathers. Sometimes one part or other of the body will be white or rufous grey.

NOTE. Occasionally (in Europe) the Crow produces a hybrid with the Hooded Crow, which appears intermediate between the two species. This circumstance occurs in the south and east of Europe, where the black Crow is rare; but never happens where both species are common.

THE FISH CROW.

(*Corvus ossifragus*, WILSON, v. p. 27. pl. 37. fig. 2. Philad. Museum, No. 1369.)

SP. CHARACT. — Glossy black, with violet reflections; the chin naked; tail slightly rounded, extending more than an inch beyond the folded wings; the 4th primary longest; the 1st much shorter than the 9th; (length 16 inches.)

WILSON was the first to observe the distinctive traits of this smaller and peculiar American species of Crow along the sea-coast of Georgia. It is also met with as far north as the coast of New Jersey. It keeps apart from the common species, and instead of assembling to roost among the reeds at night, retires, towards evening, from the shores which afford it a subsistence, and perches in the neighbouring woods. Its notes, probably various, are at times hoarse and guttural, at others weaker and higher. They pass most part of their time near rivers, hovering over the stream to catch up dead and perhaps living fish, or other animal matters which float within their reach; at these they dive with considerable celerity, and seizing them in their claws, convey them to an adjoining tree, and devour the fruits of their predatory industry at leisure. They also snatch up water-lizards in the same manner; and, last winter, on the broad bosom of the Santee, at Charleston, where they were abundant, I observed a strife between a pair of these birds and a Herring-Gull, whom they attempted to plunder of his legitimate prey. It is

amusing to see with what steady watchfulness they hover over the water in search of their precarious food, having, in fact, all the traits of the Gull; but they subsist more on accidental supplies, than by any regular system of fishing. On land they have sometimes all the familiarity of the Magpye, hopping up on the backs of cattle, in whose company they, no doubt, occasionally meet with a supply of insects when other sources fail. They are also regular in their attendance on the fishermen of New Jersey for the purpose of gleaning up the refuse of the fish. They are also less shy and suspicious than the common Crow, and, showing no inclination for plundering the corn-fields, are rather friends than enemies to the farmer. They appear near Philadelphia, from the middle of March to the beginning of June, during the season of the shad and herring fishery.

They breed in New Jersey in tall trees, and have a brood of 4 or 5 young, with whom they are seen in company in the month of July.

The Fishing Crow is 16 inches long, and 33 in alar extent. The chin is bare of feathers around the base of the lower mandible. The eye very small. Irids dark hazel. Claws black, sharp, and long, the hind one largest. Male and female much alike.

This species bears some resemblance to the Rook in general appearance, and by the bare space near the bill, but it is smaller, longer tailed, and wholly different in its habits and mode of living. The gregarious character of the Rook is very remarkable; more than a dozen nests may be counted in the same tree, and some scores are seen in the same vicinity. They very seldom remove from the places thus chosen, and if a straggling pair attempt to intrude into the rookery, as they are apt to do from their instinctive dislike of solitude, severe contests ensue. In the year 1783, a pair of these birds, driven from settling in the general resort in the neighbourhood of the exchange at Newcastle, took refuge, at length, on the spire of that building, and though still interrupted by the neighbouring Rooks, they contrived to fix their nest on the top of the vane, and undisturbed by the noise of the populace below, they reared their young,

who, with the nest and its owners, were turned about by every change of the wind. They returned and continued to refit the nest for 10 successive years, until the taking down of the spire put an end to their aërial castle.

COLUMBIAN CROW.

(*Corvus columbianus*, WILSON, iii. p. 29. pl. 20. fig. 2. Philad. Museum. No. 1371.) †

SP. CHARACT. — Brownish-white; wings, and 2 middle tail feathers bluish shining black; the secondaries white at the summits; outer tail feathers white.

OF the habits of this curious small species nothing more is known, than that its discoverers, Lewis and Clarke and their party, met with it abundantly on the shores of the Columbia river, in Northwestern America, and that they were noisy and gregarious like the common species, for which some of the party mistook them. From its formidable claws, and its resorting to the banks of rivers and the sea-coast, it probably feeds on fish.

The length of this Crow, of which this was the only specimen brought, was 13 inches. The 2 middle tail-feathers, and the interior vanes of the next, except at the tip, are black, and, as well as the wings, glossed with steel blue. The tail rounded, and about the same length with the folded wings; the 2 middle tail-feathers are somewhat shorter than the adjoining. Vent white. The claws black and large. Bill dark horn-color.

Subgenus. — PICA. (*Magpies.*)

The feathers of the head not erectile. The tail very long and wedge-shaped. The general color of these birds is black and white, sometimes variegated, also wholly dark.

They advance by leaps instead of steps; and have usually a low and short flight.



MAGPIE.

(*Corvus pica*, LIN. WILSON, iv. p. 75. pl. 35. fig. 2. Philad. Museum, No. 1333.)

SP. CHARACT.—Of a deep velvety black; the belly, primaries on the inner web, and scapulars white; the tail about 10 inches long, greenish black with bronzed reflections.

THIS bird is much more common in Europe than in America, being confined in this country to the northern regions, and to the extensive plains of the Rocky Mountains west of the Mississippi. Thence they continue to the banks of the Columbia, and on the opposite side of northern and temperate Asia, are found in Kamschatka, Japan, and China. They are sometimes met with as far down the Missouri as Boonsborough in the severity of winter, driven from the western wilderness, only by the imperious calls of hunger. In summer they are so rare, even in the Missouri territory, that from March to October, and from St. Louis to the trading-house at the Mandans, a distance by the river of 1600 miles, a party of

near 70 men, attended by constant hunters, never met with a single Pie, nor were any appearances of their nests any where visible. 1100 miles up the Arkansa, and more than 1000 up Red River, countries which I visited in summer never presented a specimen of this otherwise familiar and roving bird. The season of incubation with the American Pies, so different from their familiar habits in the old continent, is passed, no doubt, in the wooded recesses of the Rocky Mountains, which abound with berries and acorns, and with small birds and their eggs. They are known to make so great a destruction among the eggs of Grouse, Pheasants, Partridges, and even among young chickens, in many parts of Europe, as to be proscribed by law, and destroyed for the premium justly set on their heads. The absence of food and shelter for their nests in summer, suitable for the Magpie, on the vast prairies of the Arkansas and Missouri, particularly toward the sandy deserts at the base of the Rocky Mountains, will probably continue as a perpetual barrier to the eastern migrations of this mischievous species, whose means of flight and travelling are still more circumscribed than those of the common Crow. They consequently experience annually, in the terrible vicissitudes of climate incident to the countries they inhabit, like the Esquimaux of the arctic regions, either a feast or a famine, and are rendered so bold and voracious by want, that in the vicinity of the northern Andes, towards New Mexico, Colonel Pike was visited by them in the month of December, in latitude 41° , while the thermometer was at the dreadful line of 17° below zero, on the scale of Reaumur. They now assembled round the miserable party in great numbers for the purpose of picking the sore backs of their perishing horses, and, like the Vulture of Prometheus, they did not await the death of the subjects they tormented, but fed

upon them still living, till their flesh was raw and bleeding. They were even so bold and familiar as to alight on the men's arms, and eat flesh out of their hands.*

To the party of Lewis and Clark the Magpies were also very familiar and voracious, so that they penetrated into their tents, and without ceremony, like the Harpies of Virgil, snatched the meat even from the dishes, preferring the chance of any death to that of pining hunger. They were also frequent attendants on the hunters, and while these were engaged in dressing and skinning their game, the Pies would venture to seize the meat suspended within a foot or two of their heads.

Impelled by hunger, this species does not refuse to feed on carrion, but their usual familiar visits to the backs of cattle have a beneficial tendency, as they rid them of the larvæ which burrow and nestle in the skin; they also eat various kinds of grain, acorns, seeds, fruits, and other vegetable substances, and are greedy of worms, and insects of all kinds.

The Pie is also easily domesticated, and taught to imitate the human voice, articulating words with distinctness and emphasis. One which I saw, thus familiarized, was very fond of accosting passengers by *what? what? what?* and hearing the inmates where he dwelt energetically pronounce oaths, he became an adept at profane language. He is readily accustomed to the sight of man, being very familiar in the house, of which, in time, he makes himself the master; not fearing even the cats, with whom he has been known to live securely, and even pass upon them various tricks.

He is extremely restless, active, and capricious on the ground, over which he leaps with antic gait, and con-

* Pike's Journal, p. 170.

tinues briskly moving his tail in different directions ; he is also very mischievous, and given to mocking and imitating all he sees and hears. His common prate is like that of the Crow, but, besides his imitations of speech, he will sometimes counterfeit the lowing of the calf, the bleating of the goat, the sheep, and even the flagelet of the shepherd. One has been heard to imitate the flourish of a trumpet ; and Willughby saw several that could pronounce whole phrases.

Like the Crow, the Pie has the habit of stealing and hiding provisions or pieces of money, which it performs with so much art, that they are often difficult to be found. It is pretended by hunters, that the Pie has a knowledge of arithmetic up to 5, so that when from 2 to that number of men entered a hut near the nest, it would not venture into it, while 2, 3, or 4 of the 5 came out, and only lost count when the experiment was made with 6.

Cunning and precaution indeed prevail in all the actions of the Pie, and are in nothing more evident than in the construction of his nest, which is situated either in a large tree, or a high and close bush on the edge of the forest or the orchard, and often in the tall hedge-row near the cottage. They both unite in the necessary labor, and begin by fortifying it externally with flexible twigs, filling in towards the bottom pieces of turf and clay ; it is then wholly covered with a canopy or defence formed with small thorny branches, well interlaced together, and leaving an entrance only in the best defended and least accessible side. Internally the nest is covered with a thick layer of well-wrought clay ; this is then lined with a mass of pliable root fibres neatly interlaced together, which is in reality the true nest or bed for the tender young, and is only about 6 inches in diameter, while the whole of the defensive outworks give a diameter of at least 2 feet

The eggs are 3 to 6 in number, rather long, and of a whitish green, spotted with cinereous grey and olive brown. Near Portsoy, in Scotland, a pair of Magpies for several succeeding years built their nest, and brought up their young in a gooseberry bush; and the more securely to defend this lowly mansion, they encircled the bush with briars and thorns in such a manner, that no sort of enemy but man could gain access to it. They annually repaired and fortified their dwelling in each succeeding spring with strong thorny twigs, sometimes so large that the pair jointly employed their force, dragging, at either end, a stick that they were unable to lift from the ground.

The Pies also defend their nest and young with great courage from the approach of the Crow, or even the Falcon and Eagle, and are said occasionally to carry off the eggs, if the nest be too curiously observed. As might have been anticipated from his sagacity, the Pie has been considered as a messenger of fate in the north of Europe, and I have myself, when a boy, been often delighted or vexed, by the augural destiny of their appearance in certain lucky or unlucky numbers. The antiquity of this superstition, still in existence, goes back probably to the time of the Romans.

This species is 18 to 19 inches in length. The feathers of the tail are of very unequal lengths. The bill, iris, and feet are black. The secondaries purplish blue. — The Pie varies sometimes to pure white, with a reddish iris, being then an albino. Sometimes the whole plumage is variegated with tints of rufous grey, or black. Occasionally, according to Buffon, it occurs wholly black.

NOTE. A second North American Magpie was met with in Franklin's Arctic Expedition, which has been described by Sabine under the name of *Corvus hudsonius*.

Subgenus. — GARRULUS. (*Jays*.)

With the bill rather short and straight; the upper mandible somewhat inflected at tip; the lower keeled. Feathers of the head capable of being erected at will. The wings not extending to the tip of the tail. The colors usually brilliant, frequently with more or less of blue, or of the still brighter colors of the Roller (*Coracias*.)

They appear noisy and inquisitive; like the Pies, progress by leaps, and with them, have a low and unprotracted flight.



BLUE JAY.

(*Corvus cristatus*, LIN. WILSON, i. p. 11. pl. 1. fig. 1. Philad. Museum, No.)

SP. CHARACTER. — Crested, and blue; beneath whitish with a black collar; the wing-coverts transversely barred with black; the tail wedge-shaped.

THIS elegant and common species is met with throughout America. In the interior, from the remote north-western regions near Peace river in the 54 degree, Lake Winnipique in the 49°; and southwestward to the banks of the Arkansa, and New California; also along the Atlantic regions from Newfoundland to the peninsula of Florida, and the shores of the Gulph of Mexico.

The Blue Jay is a constant inhabitant both of the wooded wilderness and the vicinity of the settled farm, though more familiar at the approach of winter and early in spring, than at any other season. These wanderings or limited migrations are induced by necessity alone; his hoards of grain, nuts, and acorns, either have failed, or are forgotten; for, like other misers, he is more assiduous to amass, than to expend or enjoy his stores, and the fruits of his labors very frequently either devolve to the rats or squirrels, or accidentally assist in the replanting of the forest. His visits at this time are not unfrequent in the garden and orchard, and his usual petulant address, of *djáy*, *jáy*, *jáy*, and other harsh and trumpeting articulations, soon make his retreat known to all in his neighbourhood. So habitual is this centinel cry of alarm, and so expressive, that all the birds within call, as well as other wild animals, are instantly on the alert, so that the fowler and hunter become generally disappointed of their game by this his garrulous and noisy propensity; he is therefore, for his petulance, frequently killed without pity or profit, as his flesh, though eaten, has but little to recommend it. His more complaisant notes, when undisturbed, though guttural and echoing, are by no means unpleasant, and fall in harmoniously with the cadence of the feathered choristers around him, so as to form a finishing part to the general music of the grove. His accents of blandishment, when influenced by the softer passions, are low and

musical, so as to be scarcely heard beyond the thick branches where he sits concealed; but, as soon as discovered, he bursts out into notes of rage and reproach, accompanying his voice by jerks and actions of temerity and defiance. Indeed the Jay of Europe, with whom our beau agrees entirely in habits, is so irascible and violent in his movements, as sometimes to strangle himself in the narrow fork of a branch from which he has been found suspended.* Like the European species, he also exhibits a great antipathy to the Owl, and by his loud and savage vociferation soon brings together a noisy troop of all the busy birds in the neighbourhood. To this garrulous attack the night-wanderer has no reply, but a threatening stare of indifference; and, as soon as opportunity offers, he quietly slips from his slandering company. Advantage, in some countries, is taken of this dislike for the purpose of catching birds; thus the Owl being let out of a box, sometimes makes a hoot, which instantly assembles a motley group, who are then caught by liming the neighbouring twigs on which they perch. In this gossip the Jay and Crow are always sure to take part, if within sight or hearing of the *call*, and are thus caught or destroyed at will. The common Jay is even fond of imitating the harsh voice of the Owl and the noisy Kestrel. I have also heard the Blue Jay mock with a taunting accent the *ké oo, ké oo*, or quailing of the Red-Shouldered Hawk. Wilson likewise heard him take singular satisfaction in teasing and mocking the little American Sparrow Hawk,† and imposing upon him by the pretended complaints of a wounded bird, in which frolic several would appear to join, until their sport sometimes ended in sudden consternation, by the Hawk, justly enough, pouncing on one of them as his legitimate and devoted prey.

* See Gesner *de Avibus*, p. 702.† *Fulco Sparverius*.

His talent for mimicry when domesticated, is likewise so far capable of improvement, as to enable him to imitate human speech, articulating words with some distinctness; and on hearing voices, like a parrot, he would endeavour to contribute his important share to the tumult. Bewick remarks of the common Jay, that he heard one so exactly counterfeit the action of a saw, that though on a Sunday, he could scarcely be persuaded but that some carpenter was at work. Another, unfortunately, rendered himself a serious nuisance by learning to hound a cur dog upon the domestic cattle, whistling and calling him by name, so that at length a serious accident occurring in consequence, the poor Jay was proscribed. The Blue Jay becomes also, like the Crow and Magpie, a very mischievous purloiner of every thing he is capable of conveying away and hiding.

One which I have seen in a state of domestication, behaved with all the quietness and modest humility of Wilson's caged bird with a petulant companion. He seldom used his voice, came in to lodge in the house at night in any corner where he was little observed, but unfortunately perished by an accident before the completion of his education, or the proper developement of his intellect.

The favorite food of this species is chestnuts, acorns, and Indian corn or maize, the latter of which he breaks before swallowing. He also feeds occasionally on the larger insects and caterpillars, as well as orchard fruits, particularly cherries, and does not even refuse the humble fare of potatoes. In times of scarcity he falls upon carrion, and has been known to venture into the barn, through accidental openings; when, as if sensible of the danger of purloining, he is active and silent, and if surprised, postponing his garrulity, he retreats with noiseless precipitation, and with all the cowardice of a thief.

The worst trait of his appetite, however, is his relish for the eggs of other birds, in quest of which he may frequently be seen prowling, and with a savage cruelty he sometimes also devours the callow young, spreading the plaint of sorrow and alarm wherever he flits. The whole neighbouring community of little birds, assembled at the cry of distress, sometimes, however, succeed in driving off the ruthless plunderer, who, not always content with the young, has been seen to attack the old, though with dubious success; but to the gallant and quarrelsome King-bird, he submits like a coward, and driven to seek shelter, even on the ground, from the repeated blows of his antagonist, sneaks off, well contented to save his life.

The Blue Jay often builds his nest in the cedar, and sometimes on an orchard tree, displaying little art in its construction, forming it of twigs and other coarse materials, and lining it with the fibres of roots. The eggs, about 5, are of a dull olive, and spotted with brown. He is particularly cautious to make his visits to the spot as silent and secret as possible. Although a few of these birds are seen with us nearly through the winter, numbers, no doubt, make predatory excursions to milder regions, so that they appear somewhat abundant at this season in the Southern States; yet they are known to rear their young from Canada, to South Carolina, so that their migrations, may be nothing more than journeys from the high-lands towards the warmer and more productive sea-coast, or eastern frontier.

The Jay is 11 inches in length. The crest is pale blue. A narrow line of black runs along the frontlet, rising on each side higher than the eye, but not extending over it. A collar of black passes down so as to form a crescent on the breast. Back and upper parts of the neck of a fine light purple, in which blue predominates. Chin, cheeks, throat, and belly, white, with some blue, except in the last. Greater wing-coverts rich blue. Coverts and secondaries barred with cres-

cents of black, and tip with white. Tail of 12 feathers, long, and wedged, of a glossy bright blue, marked at small intervals with transverse curves of black, each feather, except the 2 middle darker ones, being tipped with white. Breast and sides under the wings, greyish white, tinged with vinaceous. Mouth, tongue, bill, legs, and claws black. Iris hazel.

STELLER'S JAY.

(*Corvus Stelleri*, GMELIN. BONAP. Am. Orn. ii. p. 44. pl. 13. fig. 1.)

SP. CHARACT. — Crested; blue; head and neck blackish; secondaries and tail-feathers slightly banded with black, tail rounded.

THIS beautiful Jay was first obtained by the naturalist Steller, when Behring's crew landed upon the northwest coast of America; it has also been found at Nootka Sound, and contiguous to the Oregon, or Columbia river, and probably extends its residence along the American coast as far as California, and the contiguous table land, as a specimen has likewise been received from Mexico. Of its habits and manners nothing is yet known.

This species is more than 12 inches long. The crest, head, and neck deep brownish black; the feathers on either side the front slightly tipped with azure; neck and upper part of the back lighter brown than the head, lower part of the back becoming light blue, as well as the rump and upper tail-coverts. Below, from the neck, blue. 4th, 5th, and 6th primaries nearly equal and longest; outer wing-coverts and secondaries blue, faintly crossed with obsolete blackish lines. Primaries dark dusky, and except the outer ones, at tip, are edged or tinged with blue. Tail slightly rounded, $5\frac{1}{2}$ inches long, of a deep glossy azure, with faint traces of bars. Bill and feet black.

COLUMBIA JAY.

(*Garrulus Bullockii*, WAGLER. AUDUBON, pl. 96. *Garrula gubernatrix*, TEMMINCK.)

SP. CHARACT. — Bright blue; with a lofty crest of separate plumes; capistrum, throat, and breast black; belly whitish; tail-feathers largely tipped with white, except the 4 upper, which are longer, the 2 central ones curved, and nearly twice the length of the laterals.

Of this large and magnificent species, scarcely any thing is, as yet, known, but the splendid figure in Audubon's unparalleled work. It is not uncommon in Mexico and California, and the individual figured by Audubon was obtained on the banks of the Columbia river. The size appears to be equal to that of a Raven, and the bright blue, graduated, fan-like tail, with 2 of the central feathers extended far beyond the rest, appears more like the train of some tropical Parrot, than a near relation to the common Crow.

Length 31 inches. The crest formed of long and distinct feathers; region round the eyes, throat, and upper part of the breast, black. 3d and 4th primaries longest; the 1st very short. Bill and legs brownish black. Inner webs of the quills dusky, and no stripes on any part.

FLORIDA JAY.

(*Corvus floridanus*, BARTRAM. AUDUBON, pl. 87. Orn. Biog. i. p. 444. *Garrulus floridanus*, BONAP. Am. Orn. ii. p. 59. pl. 14. fig. 1. Philad. Museum, No. 1378, 1379.)

SP. CHARACT. — Not crested; bright azure-blue; the back brownish; beneath whitish-grey; tail wedge-shaped.

THIS elegant species is, as far as yet known, almost wholly confined to the interior of the mild peninsula of

East Florida. In my late tour through the lower parts of Georgia and West Florida, protracted to the middle of March, I saw none of these birds, and at the approach of winter, they even retire to the south of St. Augustine, as Mr. Ord did not meet with this Jay until about the middle of February; from that time, however they were seen daily, flying low, and hopping through the luxuriant thickets, or peeping from the dark branches of the live-oaks, which adorn the outlet of the St. Juan. They appear to possess the usual propensities of the subgenus, being quarrelsome, active, and garrulous. Their voice is less harsh than that of the common Blue Jay, and they have a variety of notes, some of which, probably imitations, are said to have a resemblance to the song of the Thrush, and the call of the common Jay.

According to Audubon, the nest of this species is formed of a few dry sticks, so slightly interwoven as readily to admit the light through their interstices. It is then lined with fibrous roots. The eggs, 4 to 6, are of a light olive, marked with irregular blackish dashes. They raise only a single brood in the season. Their food is very similar to that of the other species, namely, berries, fruits, mast, and insects; it likewise collects snails from the marshy grounds, feeds largely on the seeds of the sword palmetto; and in the manner of the Titmouse it secures its food between its feet, and breaks it into pieces previous to swallowing. Like other species of the genus, it destroys the eggs and young of small birds, despatching the latter by repeated blows on the head. It is also easily reconciled to the cage, and feeds on fresh or dried fruits, and various kinds of nuts. Their attempts at mimicry in this state are very imperfect.

The length of this species is about $11\frac{1}{2}$ inches, and nearly 14 in alar extent. Head, neck above, and on the sides, with the wings

and tail, bright azure. Front and line over the eyes bluish white. Back yellowish brown, with some blue on the rump; upper tail-coverts azure. Inner vanes and tips of the quills dusky. Below pale yellowish grey. From the cheeks and sides of the neck, the blue passes down along the breast, and forms a sort of collar. The wings scarcely extend beyond the coverts of the tail, which is partly wedge-shaped and about $5\frac{1}{2}$ inches long. The 1st primary as short as the secondaries, the 3d and 4th rather the longest. Feet and bill black. Iris hazel brown. — *Female* perfectly similar with the male, but a little less. — This species is nearly allied to the Mexican *Garrulus ultramarinus* of Bonaparte.

CANADA JAY.

(*Corvus canadensis*, LIN. WILSON, iii. p. 33. pl. 21. fig. 1.)

SP. CHARACT. — Dark leaden grey; hind-head black; forehead, collar, beneath, and tip of the tail brownish-white; tail wedge-shaped.

THIS species, with the intrusive habits and plain plumage of the Pie, is wholly confined to the high northern regions of America, being met with around Hudson's bay, but becoming rare near the St. Lawrence, and in winter only straggling along the coast as far as Nova Scotia. Westward, occasionally driven by the severity of the weather and failure of food, they make their appearance in small parties in the interior of Maine, and northern parts of Vermont; they also descend into the state of New York as far as the town of Hudson, and the banks of the Mohawk. It was likewise seen the 12th of September by Major Long's exploring party in latitude 49, in the northwestern interior.

According to Mr. Hutchins, like the Pie, when near the habitations and tents of the inhabitants and natives, it is given to pilfering every thing within reach, and is sometimes so bold as to venture into the tents, and snatch the

meat from the dishes, even whether fresh or salt. It has also the mischievous sagacity of watching the hunters set their traps for the martin, from which it purloins the bait. Its appetite, like that of the Crow, appears omnivorous. It feeds on worms, various insects, and their larvæ, and on flesh of different kinds; lays up stores of berries in hollow trees for winter; and, at times, with the Rein-deer, is driven to the necessity of feeding on Lichens. The severe winters of the deserts he inhabits, urges him to seek support in the vicinity of habitations. Like the common Jay, at this season, he leaves his native woods to make excursions after food, trying every means for subsistence; and, tamed by hunger, he seeks boldly the society of men and animals. They are such praters as to be considered Mocking-birds, and perhaps superstitiously dreaded by the aborigines. They commonly fly in pairs or rove in small families, are no way difficult to approach, and keep up a kind of friendly chattering, sometimes repeating their notes for a quarter of an hour at a time, immediately before snow or falling weather. When caught, they seldom long survive, though they never neglect their food. Like most of their genus, they breed early in the spring, building their nests, which are formed of twigs and grass, in the Pine trees. They are said to lay blue eggs, probably to the amount of 3 or 4, as they have rarely more than 2 or 3 young at a brood, which, at first, are perfect Crows, or quite black, and continue so for some time.

The Canada Jay is 11 inches in length, and 15 in extent. The tail is long and cuneiform. Interior vanes of the wings brown, and also partly tipped with white; plumage of the head loose and prominent. The drab of the under parts extends so as to form a sort of collar round the neck. The bill and legs black. Irids dark hazel. The sexes appear alike in color.

NOTE. This species is nearly allied to the Mocking Jay of Siberia (*Corvus infaustus*), and the two appear to form a gradual passage from the proper Crows to the Nut-crackers (*Nucifraga* of Brisson.)

FAMILY. — ÆGITHALI. (*Vicill. Bonap.*)

THE bill short, stout, straight, compressed, conic and pointed. Nostrils, towards the base of the bill, half closed by a membrane, and covered by small incumbent feathers. The feet rather robust; legs naked; the outer toes united, at least, at the base; hind toe and nail largest. Tail of 12 feathers.

These are lively and active little birds, living in woods and on trees, frequently suspending themselves by the claws to the under-side of the branches, and climbing up or down. They feed much on insects, and sometimes on fruits and seeds; they breed chiefly in the holes of decayed trees; a few build very artful nests; they have many eggs. The voice is rather unpleasant.

THE TITMOUSE. (PARUS. L.)

BILL short, straight, strong, conic, compressed, entire, edged and pointed, having bristles at the base: the upper mandible longer, rounded above, and slightly curved. The NOSTRILS, at the base of the bill, rounded, and concealed by the advancing feathers. The tongue blunt and cleft, or entire and acute. Feet rather large, the toes almost wholly divided; the nail of the hind toe strongest, and most curved. Wings, the 1st primary of moderate length, or very short; the 2d much shorter than the 3d; the 4th and 5th are longest. — The female and young differ little from the adult. They moult annually; and their plumage is long and slender.

These are familiar, active, and restless birds, of a peevish and courageous disposition, and great enemies to insects. They move by short and sudden leaps and flights from branch to branch, suspending themselves readily in all attitudes. They live in families, in woods or marshes, and approach gardens and orchards during autumn and winter. They are strictly omnivorous, feeding on grain,

fruits, insects and their larvæ, which they dislodge from every retreat, and in this pursuit sometimes injure, in some degree, the buds of trees. They perforate seed-vessels, hard seeds, and even nuts and almonds, to obtain their contents; they likewise feed on flesh, and are fond of fat. Sometimes they carry their depredations so far as to pursue and attack sickly birds, even of their own species, commencing, like Jays, by piercing the skull, and devouring the brain. They are of a quarrelsome disposition, and often attack larger birds, killing the weaker, and are very resolute in defence of their young. They breed once a year, lay many eggs, in some species even 18 or 20. Their voice is commonly unpleasant, and their chatter monotonous. Their flesh is scarcely better than that of the Rook or Crow. They are readily tamed, and may be fed with cheese, nuts, and oily seeds. They inhabit all climates, except that of South America. In many respects (as justly observed by the Prince of Musignano) they approach the character and manners of the Jays.

The genus presents 2 sections in the habits of the species, in the

§ 1st or SYLVANS, of *Temminck*,

The 1st quill feather is of a moderate length.—These live in the woods and thickets, and nest in the accidental holes of trees.—The 2d section, which construct artful nests, do not exist in America.



TUFTED TITMOUSE.

(*Parus bicolor*, L., WILSON, i. p. 137. pl. 8. fig. 5. AUDUBON, pl. 39.
Orn. Biog. i. p. 199. Philad. Museum, No. 7364.)

SP. CHARACT.—Crested; dark bluish ash-color; beneath whitish;
flanks tinged with dull reddish-orange.

FROM the geographic limits of this species, as it occurs to me, I am inclined to believe, that the bird seen in Greenland may be different from the present; as it does not appear to exist north beyond the the states of Pennsylvania, or New York. They are scarcely, if ever, seen or heard in this part of Massachusetts, and instead of being more abundant to the north, as believed by Wilson, they

are probably not known there at all. In the Southern States, at least in winter and spring, they are very common, and present all the usual habits and notes of the genus. Near Chester, in Delaware, I heard the peculiar call of this bird, and the notes of the Carolina Wren on the 17th of April, 1831, and from the tardiness of vegetation at this season, it appeared probable that they might pass the winter in their present quarters. The numbers which I saw in the Southern States, from January to March, would seem to indicate a migratory habit; but whether they had arrived from the northeast, or from the great forests of the west, could not be conjectured.

The *Peto*, as I may call this bird from one of his characteristic notes, and the Carolina Wren, were my constant and amusing companions during the winter, as I passed through the dreary solitudes of the Southern States. The sprightliness, caprice, and varied musical talent of this species are quite interesting, and more peculiarly so, when nearly all the other vocal tenants of the forest are either absent or silent. To hear, in the middle of January, when, at least, the leafless trees and dark cloudy skies remind us of the coldest season, the lively, cheering, varied pipe of this active and hardy bird, is particularly gratifying; and, though his voice, on paper, may appear to present only a list of quaint articulations, mere skeletons of musical compass, yet the delicacy, energy, pathos, and variety of his simple song, like many other things in nature, are far beyond the feeble power of description; and if in these rude graphic outlines of the inimitable music of birds, I am able to draw a caricature sufficient to indicate the individual performer, I shall have attained all the object to be hoped for in an attempt at natural delineation.

The notes of the Peto generally partake of the high, echoing, clear tone of the Baltimore Bird. Among his more extraordinary expressions, I was struck with the call of *'whip-tōm-killy killy*, and now and then *'whip-tōm-killy*, with occasionally some variation in the tone and expression, which was very lively and agreeable. The middle syllable (*tōm*) was pronounced in a hollow reverberating tone. In a few minutes after the subject and its variations were finished, in the estimation of the musical performer, he suddenly twisted himself round the branch on which he had sat, with a variety of odd and fantastic motions; and then, in a lower, hoarser, harsh voice, and in a peevish tone, exactly like that of the Jay and the Chicadee, went *dāy-dāy-dāy-dāy*, and *day-dāy-dāy-day-dāit*; sometimes this loud note changed into one which became low and querulous. On some of these occasions he also called *'tshica dee-dee*. The jarring call would then change occasionally into *kai-tee-did did-dit-did*. These peevish notes would often be uttered in anger at being approached; and then again would perhaps be answered by some neighbouring rival, against whom they appeared levelled in taunt and ridicule, being accompanied by extravagant gestures.

Later in the season, in February, when in the lower part of Alabama the mild influence of spring began already to be felt, our favorite, as he gaily pursued the busy tribe of insects, now his principal food, called, as he vaulted restlessly from branch to branch, in an echoing rapid voice, at short intervals, *petō-petō-petō-petō*. This tender call of recognition was at length answered, and continued at intervals for a minute or two; they then changed their quick call into a slower *pētó pétó pétó*; and now the natural note passed into the plaintive key, sounding like *que-āh que-āh*; then in the same breath a jarring

note like that of the Cat-bird, and in part like the sound made by putting the lower lip to the upper teeth, and calling 'tsh'vah, 'tsh'vah. After this the call of *kerry-kerry-kerry-kerry* struck up with an echoing sound, heightened by the hollow bank of the river whence it proceeded. At length, more delicately than at first, in an under tone, you hear anew, and in a tender accent, *peto peto peto*. In the caprice and humor of our performer, tied by no rules but those of momentary feeling, the expression will perhaps change into a slow and full *peet-peet-a-peet-a-peet*, then a low and very rapid *ker-ker-ker-ker-ker-kerry*, sometimes so quick as almost to resemble the rattle of a watchman. At another time, his morning song commences like the gentle whispers of an ærial spirit, and then becoming high and clear like the voice of the nightingale, he cries *keeva keeva kéeva keeva*, but soon falling into the querulous, the *day-day-day-day-day-dait* of the Chica-dee, terminates his performance. Imitative, as well as inventive, I have heard the Peto also sing something like the lively chatter of the Swallow, *leta-leta-leta-letalit*, and then vary into *pěto-pěto-pěto-pěto-peto* extremely quick. Unlike the warblers, our cheerful Peto has no trill, or any other notes than these simple, playful, or pathetic calls; yet the compass of voice and the tone in which they are uttered, their capricious variety and their general effect, at the season of the year when they are heard, are quite as pleasing, to the contemplative observer, as the more exquisite notes of the summer songsters of the verdant forest.

The sound of *'whip-tom-kelly*, which I so distinctly heard this bird utter, on the 17th of January, 1830, near Barnwell, in South Carolina, is very remarkable, and leads me to suppose that this species is also an inhabitant of the West India islands, where Sloane attri-

butes this note to the Red-eyed Fly-catcher, certainly the same bird as that which exclusively takes up its summer residence with us. But it is impossible, with the most inventive imagination, to construe this strongly marked phrase out of the simple and almost invariable warble of our Fly-catcher.

The Peto, besides insects, like the Jay, to which he is allied, chops up acorns, cracks nuts and hard and shelly seeds, to get at their contents, holding them meanwhile in his feet. He also searches and pecks decayed trees and their bark with considerable energy and industry in quest of larvæ; he often also enters into hollow trunks, prying after the same objects. In these holes they commonly roost in winter, and occupy the same secure situations, or the holes of the small Woodpecker, for depositing and hatching their eggs, which takes place early in April or in May, according to the different parts of the Union they happen to inhabit. Sometimes they dig out a cavity for themselves with much labor, and always line the hollow with a variety of warm materials.* Their eggs, about 6 to 8, are white, with a few small specks of brownish-red near the larger end. The whole family, young and old, may be seen hunting together throughout the summer and winter, and keeping up a continued mutual chatter.

According to the observations of Wilson, it soon becomes familiar in confinement, and readily makes its way out of a wicker cage by repeated blows at the twigs. It may be fed on hemp-seed, cherry-stones, apple-pippins, and hickory-nuts, broken and thrown in to it. In its natural state, like the rest of its vicious congeners, it sometimes destroys small birds by blows on the skull.†

* Audubon, Orn. Biog. i. p. 200.

† Ibid.

This species is $6\frac{1}{2}$ inches long, and 9 in the stretch of the wings. Above, dark bluish-ash; the front black tinged with reddish. Beneath sullied white, except the sides under the wings, which are pale reddish-brown. Legs and feet greyish blue. Bill black. Iris hazel. The crest high and pointed, like that of the common Blue Jay. Tail slightly forked. Tips of the wings dusky. Tongue blunt ending in 4 sharp points. Female very similar to the male.



CHICADEE, OR BLACK-CAPT TITMOUSE.

(*Parus palustris*, L., *P. atricapillus*, IB. WILSON, i. p. 134. pl. 8. fig. 4. Philad. Museum, No. 7380.)

SP. CHARACT.—Not crested; grey, tinged with brown; the head above and ridge of the neck black; the black on the throat not extended; cheeks and beneath white, faintly tinged with greyish brown; tail 2 inches long. — In the *female* the black is less deep, and less apparent on the throat.

THIS familiar, hardy, and restless little bird inhabits both Europe and North America. In the latter continent it is even resident in winter around Hudson's Bay, and has been met with at 62° on the Northwest Coast. It is, indeed, difficult to say in what part of the United States it is most common, so generally and equally has it colonized the temperate parts. In

winter they abound in all the forests of the Southern States to Florida, and probably extend their visits into Mexico. In all these countries, in autumn, families of them are seen chattering and roving through the woods, busily engaged in gleaning their multifarious food, along with the preceding species, Nuthatches, and Creepers, the whole forming a busy, active, and noisy group, whose manners, food, and habits bring them together in a common pursuit. Their diet varies with the season, for besides insects, their larvæ, and eggs, of which they are more particularly fond, in the month of September they leave the woods and assemble familiarly in our orchards and gardens, and even enter the thronging cities in quest of that support which their native forests now deny them. Large seeds of many kinds, particularly those which are oily, as the Sun-flower, and Pine and Spruce Kernels are now sought after. These seeds, in the usual manner of the genus, are seized in the claws and held against the branch, until picked open by the bill to obtain their contents. Fat of various kinds is also greedily eaten, and they regularly watch the retreat of the hog-killers, in the country, to glean up the fragments of meat which adhere to the places where the carcasses have been suspended. At times they feed upon the wax of the Candle-berry Myrtle (*Myrica cerifera*); they likewise pick up crumbs near the houses, and search the weather-boards, and even the window-sills, familiarly for their lurking prey, and are particularly fond of spiders and the eggs of destructive moths, especially those of the canker-worm, which they greedily destroy in all its stages of existence. It is said that they sometimes attack their own species when the individual is sickly, and aim their blows at the skull with a view to eat the brain; but this barbarity I have never witnessed. In winter, when satisfied, they will descend to

the snow-bank beneath and quench their thirst by swallowing small pieces; in this way, their various and frugal meal is always easily supplied; and hardy, and warmly clad in light and very downy feathers, they suffer little inconvenience from the inclemency of the seasons. Indeed in the winter, or about the close of October, they at times appear so enlivened as already to show their amorous attachment, like our domestic cock, the male approaching his mate with fluttering and vibrating wings; and in the spring season, the males have obstinate engagements, darting after each other with great velocity and anger. Their roost, I suspect, is in the hollows of decayed trees, where they also breed, laying their eggs merely in the dry rotten wood, without any attempt at a nest; * these are from 6 to 12 in number, white, with specks of brown-red. They begin to lay about the middle or close of April, and though they commonly make use of natural or deserted holes of the Woodpecker, yet at times, they are said to excavate a cavity for themselves with much labor. The first brood take wing about the 7th or 10th of June, and they have sometimes a second towards the end of July. The young, as soon as fledged, have all the external marks of the adult, the head is equally black, and they chatter and skip about, with all the agility and self-possession of their parents, who appear nevertheless very solicitous for their safety. From this time the whole family continue to associate together through the autumn and winter. They seem to move by concert from tree to tree, keeping up a continued *'tshe-de-de-de-de*, and *'tshe-de-de-de-dait*, preceded by a shrill whistle, all the while busily engaged, picking

* In Europe, however, this kind, if the *same* species, as asserted by Temminck, is said to dig out an excavation in decayed willows, in which it makes a nest of moss, thistle down, and sometimes a little wool and feathers.

round the buds and branches, hanging from their extremities and proceeding often in reversed postures, head downwards, like so many tumblers, prying into every crevice of the bark, and searching around the roots, and in every possible retreat of their insect prey or its larvæ. If the object chance to fall, they industriously descend to the ground and glean it up with the utmost economy.

On seeing a cat, or other object of natural antipathy, the Chickadee, like the peevish Jay, scolds in a loud, angry, and hoarse note, like *'tshe, dáigh dáigh dáigh*. Among the other notes of this species, I have heard a call like *tshe-de-jay, tshe-de-jay*, the two first syllables being a slender chirp, with the *jay* strongly pronounced. The only note of this bird which may be called a song, is one which is frequently heard at intervals in the depth of the forest, at times of the day usually when all other birds are silent. We then may sometimes hear in the midst of this solitude two feeble, drawling, clearly whistled, and rather melancholy notes, like *'te-dërry*, and sometimes *'ye-përrit*, and occasionally, but much more rarely, in the same wiry, whistling, solemn tone *'phēbé*. The young, in winter, also sometimes drawl out these contemplative strains. In all cases, the first syllable is very high and clear, the second word drops low, and ends like a feeble plaint. This is nearly all the quaint song ever attempted by the Chickadee; and is perhaps the two notes sounding like the whetting of a saw, remarked of this bird in England by Mr. White, in his *Natural History of Selborne*.* On fine days, about the commencement of October, I have heard the Chickadee sometimes, for half an hour at a time, attempt a lively, petulant warble, very different from his ordinary notes. On these occasions he appears to flirt about, still hunting for his prey, but almost in an ecstasy of delight and vigor.

* Vol. i. p. 177. (1st Ed.)

But after a while the usual drawling note again occurs. These birds, like many others, are very subject to the attacks of vermin, and they accumulate in great numbers around that part of the head and front which is least accessible to their feet.

The European bird is supposed to be partial to marshy situations. Ours has no such predilection, nor does the American bird, that I can learn, ever lay up or hide any store of seeds for provision, a habit reported of the foreign family. In this fact, with so many others, we have an additional evidence of affinity between the Titmouse and Jay.* Even the blue color, so common with the latter, is possessed by several species of this genus. Indeed from their aggregate relation, and omnivorous habit, we see no better place of arrangement for these birds than succinctly after the Garruli or Jays.

The Chickadee is $5\frac{1}{2}$ inches in length, and $6\frac{1}{2}$ in alar extent. The throat, head, and ridge of the neck black. Cheeks, ears, and a line to the base of the bill, white. Above cinereous, tinted with brown. The wings darker, edged with whitish. Beneath, the rest of the plumage is white, tinted with greyish-brown. The bill black. Tongue blunt. Legs bluish-grey. Iris dark hazel. The *sexes* and *young*, to me, are hardly distinguishable apart. I have never seen the young with *brown* heads; they have the head *quite black* from the time they leave the nest.

NOTE.—Although in compliance with the opinion of Temminck, I have referred the Chickadee to the European species, yet there is a considerable discrepancy in the habits of the two. The latter appears to form a soft nest of down and feathers; ours makes, I believe, no bedding for its nest whatever.

The HUDSON'S BAY TITMOUSE is said to have a *ferruginous brown* head; to utter scarcely any note beyond a chirp; and to dwell chiefly among Juniper thickets. It is also said to build in the same bushes, in June, a nest of grass, lined with feathers, containing usually 5 eggs. It is also known by the aborigines under a different name from the Chickadee.

* This curious relation was, I believe, first pointed out by Prince Bonaparte in the history of Steller's Jay.

FAMILY. — SERICATI.

Not strictly omnivorous. Gregarious and sociable. Voice weak and lisping, just audible.

WAXEN CHATTERERS. (BOMBYCILLA. *Brisson.*)

The BILL short, straight, and elevated: the upper mandible slightly curved towards its extremity, and provided with a strongly marked tooth. NOSTRILS at the base of the bill, oval, open, hidden by stiff hairs directed forwards; the *tongue* cartilaginous, broad at the tip and lacerated. The *feet* with 3 toes directed forward and one backward, the exterior united to the middle toe. *Wings* moderate; the 1st and 2d primaries longest; the spurious feather very short.

The sexes are alike, and both crested; some of the tips of the secondaries are terminated by small, red, oblong appendages, like sealing-wax. The plumage close, soft, and silky. They moult annually; live in numerous flocks; and are given to wandering at all seasons, except the mere time necessary for incubation. In disposition they are simple, and readily tamed, but do not long survive confinement. They feed chiefly on juicy fruits, and small larvæ or caterpillars; building in trees, and often laying twice a year; the eggs about 5. The genus composed of only 3 species, one peculiarly American, the 2d common to Europe, Asia, and America, and the 3d in Japan.

WAXEN CHATTERER.

(*Bombycilla garrula*, VIEILL. BONAP. Am. Orn. iii. pl. 16. fig. 2.
Ampelis garrulus, LIN.)

SP. CHARACT. — Brownish grey; head, except the posterior part of the crest, chestnut; chin, frontlet, and line partly surrounding the eye, black; belly cinereous; vent chestnut color; wings with two series of white marks.

THE Wax-Wing, hitherto in America, seen only in the vicinity of the Athabasca river, near the region of the

Rocky Mountains, in the month of March, is of common occurrence, as a passenger throughout the colder regions of the whole northern hemisphere. Like our Cedar Birds, they associate in numerous flocks, pairing only for the breeding season; after which the young and old give way to their gregarious habits, and collecting in numerous companies, they perform extensive journeys, and are extremely remarkable for their great and irregular wanderings. The circumstances of incubation in this species are wholly unknown. It is supposed that they retire to the remote northern regions to breed, yet in Norway, they are only birds of passage, and it has been conjectured that they pass the summer in the elevated table land of central Asia. Wherever they dwell at this season, it is certain that in spring, and late autumn, they visit northern Asia or Siberia, and eastern Europe in vast numbers, but are elsewhere only uncertain stragglers, whose appearance, at different times, has been looked upon as ominous of some disaster by the credulous and ignorant.

The Waxen Chatterers, like our common Cedar Birds, appear destitute of song, and only lisp to each other their usual low reiterated call of *zé zé re*, which becomes more audible when they are disturbed, and as they take to wing. They are also very sociable and affectionate to their whole fraternity, and sit in rows often on the same branch, when not employed in collecting their food, which is said to consist of juicy fruits of various kinds, particularly grapes; they will also eat juniper and laurel berries, as well as apples, currants, and figs, and are often seen to drink.

Length $8\frac{1}{2}$ inches; alar extent about 15. Anterior part of the head bay, passing posteriorly into reddish drab, which is the prevailing color above as well as on the breast. Lower part of the back and rump

cinereous. Belly and femorals pale ash; vent reddish chestnut. Quills dusky, the 1st spotless, the 2d with a small mark of white on the tip of the outer web, which mark gradually increases on the following feathers, forming a longitudinal spot which is much larger on the secondaries, 4 of which have the vermilion, wax-like appendages. Each feather of the bastard wing is also largely tipped with white, thus producing an additional spot of white; there is however no yellow on the wing. Tail 3 inches, black, broadly terminated with pale yellow. Feet and legs black. Iris reddish.



CEDAR BIRD, OR CHERRY BIRD.

(*Bombycilla carolinensis*, BRISS. BONAP. AUDUBON, pl. 43. [extremely fine and natural]. *Ampelis americana*, WILSON, i. p. 107. pl. 7. fig. 1. Philad. Museum, No. 5608.)

SP. CHARACT. — Brownish grey, the crest inclining to rufous; chin, frontlet, and line over the eye, black; belly yellow, and the vent white; wings and tail dusky grey, the latter tipped with yellow.

THIS common native wanderer, which in the summer extends its migrations to the remotest unpeopled regions of Canada,* is also found throughout the American continent to Mexico, and parties occasionally even roam to the tropical forests of Cayenne. In all this extensive geographical range, where great elevation or latitude tempers the climate so as to be favorable to the production of juicy fruits, the Cedar Bird will probably be found either almost wholly to reside, or to pass the season of reproduction. Like its European representative (the Waxen Chatterer), it is capable of braving a considerable degree of cold, for in Pennsylvania and New Jersey some of these birds are seen throughout the winter, where, as well as in the early part of the summer and fall, they are killed and brought to market, generally fat, and much esteemed as food. Silky softness of plumage, gentleness of disposition, innocence of character, extreme sociability, and an innate, inextinguishable love of freedom, accompanied by a constant desire of wandering, are characteristic traits in the physical and moral portrait of the second as well as the preceding species of this peculiar and extraordinary genus.

Leaving the northern part of the continent, situated beyond the 40th degree, at the approach of winter, they assemble in companies of 20 to a hundred, and wander through the Southern States and Mexico to the confines of the equator, in all of which countries they are now either common or abundant. As observed by Audubon, their flight is easy, continued, and often performed at a considerable height; and they move in flocks or companies, making several turns before they alight. As the mildness of spring returns, and with it their favorite food, they reappear in the Northern and Eastern States about

* Seen by Mr. Say near Winnipique river in latitude 50.

the beginning of April, before the ripening of their favorite fruits, the cherries and mulberries. But at this season, to repay the gardener for the tythe of his crop, their natural due, they fail not to assist in ridding his trees of more deadly enemies which infest them, and the small caterpillars, beetles, and various insects now constitute their only food; and for hours at a time they may be seen feeding on the all-despoiling Canker-worms,* which infest our Apple trees and Elms. On these occasions, silent and sedate, after plentifully feeding, they sit dressing their feathers, in near contact on the same branch to the number of 5 or 6; and as the season of selective attachment approaches, they may be observed pluming each other, and caressing with the most gentle fondness; a playfulness, in which, however, they are even surpassed by the condemned Raven, to which social and friendly family our Cedar Bird, different as he looks, has many traits of alliance. But these demonstrations of attachment, which, in a more vigorous kind, would kindle the feud of jealousy, apparently produce in this bird scarcely any diminution of the general social tie; and as they are gregarious to so late a period of the inviting season of incubation, this affection has been supposed to be independent of sexual distinction. This friendly trait is carried so far, that an eye-witness† assures me he has seen one among a row of these birds seated upon a branch dart after an insect, and offer it to his associate when caught, who very disinterestedly passed it to the next, and each delicately declining the offer, the morsel has proceeded backwards and forwards before it was appropriated. Whatever may be the fact, as it regards this peculiar sociability, it frequently facilitates the means of their de-

* The caterpillar larva of a *Phalena*. † My friend S. Green, Esq., of Boston.

struction with the thoughtless and rapacious sportsman ; who, because many of these unfortunate birds can be killed in an instant, sitting in the same range, thinks the exercise of the gun must be credited only by the havock which it produces against a friendly, useful, and innocent visitor.

Towards the close of May, or beginning of June, the Cherry-birds, now paired, commence forming the cradle of their young ; yet still so sociable are they, that several nests may be observed in the same vicinity. The materials and trees chosen for their labors are various, as well as the general markings of their eggs. Two nests, in the Botanic Garden at Cambridge, were formed in small hemlock * trees, at the distance of 16 or 18 feet from the ground, in the forks of the main branches. One of these was composed of dry, coarse grass, interwoven roughly with a considerable quantity of dead hemlock sprigs, further connected by a small quantity of silk-weed † lint, and lined with a few strips of thin grape-vine bark, and dry leaves of the silver fir. In the second nest the lining was merely fine root fibres. On the 4th of June this nest contained 2 eggs ; the whole number is generally about 4 or 5 ; these are of the usual form (not remarkable for any disproportion of the 2 ends), of a pale clay white, inclining to olive, with a few well defined black or deep umber spots at the great end, and with others seen, as it were, beneath the surface of the shell. Two or three other nests were made in the Apple-trees of an adjoining orchard, one in a place of difficult access, the other on a depending branch easily reached by the hand. These were securely fixed horizontally among the ascending twigs, and were formed externally of a mass of dry, wiry weeds ; the materials being firmly held together by a large quantity of Cud-

* *Abies canadensis*. L.† *Asclepias*, species.

weed down,* in some places softened with glutinous saliva so as to be formed into coarse connecting shreds. The round edge of the nest was made of coils of the wiry stolons of a common Cinquefoil,† then lined with exceedingly fine root fibres; over the whole, to give elasticity, were laid fine stalks of a slender *Juncus* or minute rush. In these nests the eggs were, as described by Wilson (except as to form), marked with smaller and more numerous spots than the preceding. From the lateness of the autumn, at which period incubation is still going on, it would appear that this species is very prolific, and must have at least two hatches in the season; for as late as the 7th of September a brood, in this vicinity, were yet in the nest. The period of sitting is about 15 or 16 days, and while the young are still helpless, it is surprising to witness the silence of the parents, uttering no cries, nor making any approaches to those who may endanger or jeopard the safety of their brood; still they are flying round, and silently watching the dreaded result, and approach the nest the moment the intruder disappears. They feed the young, at first, with insects and smooth caterpillars, but at the end of the 3d or 4th day they are fed, like the old ones, almost exclusively on sweet and juicy fruits, such as whortle and service berries, wild and cultivated cherries, &c. A young bird from one of the nests described, in the Hemlock, was thrown upon my protection, having been by some means ejected from his cradle. In this critical situation however he had been well fed or rather gorged with berries, and was merely scratched by the fall he had received. Fed on cherries and mulberries, he was soon well fledged, while his mate in the nest was suffered to perish by the forgetfulness of his natural protectors. Coeval with the growth of his wing-feathers, were already

* *Gnaphalium plantaginicum.*† *Potentilla simplex.*

seen the remarkable red waxen appendages, showing, that their appearance indicates no particular *age* or *sex*; many birds, in fact, being without these ornaments during their whole lives. I soon found my interesting *protogée* impatient of the cage, and extremely voracious, gorging himself to the very mouth with the soft fruits on which he was often fed. The throat, in fact, like a craw, admits of distention, and the contents are only gradually passed off into the stomach. I now suffered the bird to fly at large, and for several days he descended from the trees, in which he perched, to my arm for food; but the moment he was satisfied, he avoided the cage, and appeared by his restlessness unable to survive the loss of liberty. He now came seldomer to me, and finally joined the lisping muster-cry of *tze tze tzé*, and was enticed away, after two or three attempts, by his more attractive and suitable associates. When young, nature provided him with a loud, impatient voice, and *té-did*, *té-did*, *kaí-té-did*, (often also the clamorous cry of the young Baltimore,) was his deafening and almost incessant call for food. Another young bird of the first brood, probably neglected, cried so loud and plaintively to a male Baltimore-bird in the same tree, that he commenced feeding it. Mr. Winship of Brighton informs me, that one of the young Cedar-birds, who frequented the front of his house in quest of Honey-suckle berries, at length, on receiving food, probably also abandoned by his roving parents, threw himself wholly on his protection. At large, day and night, he still regularly attended the dessert of the dinner-table for his portion of fruit, and remained steadfast in his attachment to Mr. W. till killed by an accident, being unfortunately trodden under foot.

Though harmless, exceedingly gentle, and artless, they make some show of defence when attacked, as a second

bird which I brought up, destitute of the red appendages on the wings, when threatened, elevated his crest, looked angry, and repeatedly snapped with his bill.

Almost all kinds of sweet berries are sought for food by the American waxen-wing. In search of whortle-berries, they retire in Pennsylvania to the western mountain chains of the Alleghany range; and in autumn, until the approach of winter, they are equally attached to the berries of the Virginia juniper,* as well as those of the sour-gum tree, and the wax-myrtle. They also feed, late in the season, on ripe persimmons,† small winter grapes, bird-cherries, the fruit of the Pride of China, and other fruits. The kernels and seeds of these, uninjured by the action of the stomach, are strewed about, and thus accidentally planted in abundance wherever these birds frequent. Like their prototype, the preceding species, the migrations, and time and place of breeding are influenced by their supply of food. In the spring of the present year (1831), they arrived in this vicinity, as usual, but, in consequence of the failure of cherries, scarcely any have bred here, to my knowledge, and very few were either to be heard or seen in the vicinity. In this part of New England this bird is frequently known by the name of the *Canada Robin*, and by the French Canadians it is fancifully called *Recollet*, from the color of its crest resembling that of the hood of this religious order.

The length of our bird varies from $7\frac{1}{2}$ to full 8 inches, so that at times it arrives at the full size of the European species. Head, neck, breast, back, and wing-coverts of a brownish-grey; becoming darker on the back, and brightest on the front and elevated crest. A deep black line from the nostril over the eye to the hind-head, bordered

* Improperly called Red Cedar.

† In many parts of Georgia, and particularly the vicinity of Milledgeville, these trees are observed to spring up in whole groves on cleared or burnt lands, and this growth must undoubtedly be due to the dissemination produced by these birds.

above by a slender line of white ; another line of the same color passing from the lower mandible. The chin black, gradually brightening into greyish brown. The belly yellow ; vent white ; wings dusky-grey. Rump and tail-coverts dark ash-color ; tail of the same color deepening into dusky, and broadly tipped with yellow. Six or 7, and sometimes the whole 9 secondaries of the wings curiously ornamented with small vermilion oblong appendages, resembling sealing-wax, which are a prolongation of the shafts ; occasionally these processes also terminate some of the tail-feathers. Many of these birds are destitute of these singular ornaments, which answer no economical purpose whatever to the individual. The bill, legs, and claws are black. Iris blood-red. In the female, the tints are duller.

ORDER THIRD.



INSECTIVOROUS BIRDS.

IN these the BILL is either short, or of moderate length, straight, rounded, and weakly edged or pointed like an awl. The upper mandible is curved and notched towards the point, most commonly provided at its base with stiff hairs, directed forwards. The FEET have 3 of the toes before, and one behind, all on the same level. The outer united to the middle toe at its base as far as to the first articulation.

The voice of these birds is often agreeable and harmonious: all of them feed principally upon insects, particularly during the time of reproduction; berries also afford aliment to many of the species, but they are ordinarily only an accessory nourishment. They have often several broods in the year, and dwell in the woods and thickets, or among reeds and marshes, where they nest in single pairs.



FAMILY — CANORI.

With the bill short or moderate, the tail of 12 feathers. — They feed on insects, at large; excel in musical powers; and their flesh is palatable.

BUTCHER-BIRDS. (LANIUS. *Lin.*)

The BILL of moderate size, robust, straight from its origin, and much compressed, with advancing bristles at the base; the upper mandible rounded above, hooked, and acute at the tip, near to which, on either side, there is a small sharp tooth; the lower notched, and also toothed near the tip. NOSTRILS basal, lateral, almost round, partly hidden in the hairs at the base of the bill, and half closed by a vaulted membrane. *Feet*, with the tarsus longer than the middle toe; the toes entirely divided. *Wings* moderate, the spurious feather very short, and the 3d and 4th primaries longest.—The female and young of the American species scarcely differ from the adult male. Some others have a partial moult a second time in the year.

The larger species possess the courage and cruelty of birds of rapine. Their prey, which they seize and convey in the bill, consists, however, principally of large insects; they often also attack small birds, for which they commonly lie in wait on the high branches of trees; they hold their victim usually in one foot, and tear it to pieces with the bill. They fly precipitately and irregularly to short distances and frequently move the tail. They defend their nests from the largest birds of prey with dauntless temerity; live in families; build in trees and bushes, and lay from 5 to 7 eggs. Their voice is loud and somewhat musical, and they have a propensity for imitating the calls and notes of other birds.—They are found in all parts of the world; but in South America they are principally represented by other allied forms. In habit they approach the birds of prey, have some relation at the same time to Magpies, and pass almost into the Flycatchers, Thrushes, and other small insectivorous birds.



GREAT AMERICAN SHRIKE, OR BUTCHER-BIRD.

(*Lanius septentrionalis*, GM. BONAP. *L. excubitor*, WILSON, i. p. 74.
pl. 5. fig. 1. Philad. Museum, No. 664.)

SP. CHARACT. — Light slate-color, beneath white, undulated with pale brown; wings and tail black; tail-feathers, excepting the 2 middle ones, partly white; third primary longest; 4th, equal to the 2d. — *Female* paler, with the band of black on the face obscure. — *Young*, greyish drab-color, wing spot obscure, 3d and 4th primaries nearly equal, the 2d much shorter, with four of the middle tail-feathers wholly black.

THIS little wary northern hunter is most commonly seen in this part of the continent at the commencement of winter, a few remaining with us throughout that season; and it is remarked by Wilson, that they do not extend their wanderings further than the state of Virginia. In March they retire to the north, though some take up their

summer abode in the thickest forests in Pennsylvania, and New England. The nest is said to be large and compact, in the fork of a small tree, and sometimes in an apple-tree, composed externally of dried grass, with whitish moss, and well lined with feathers. The eggs are about 6, of a pale cinereous white, thickly marked at the greater end with spots and streaks of rufous. The period of sitting is about 15 days. The young appear early in June, or the latter end of May.

The principal food of this species is large insects, such as grasshoppers, crickets, and spiders. With the surplus of the former, as well as small birds, he disposes in a very singular manner, by impaling them upon thorns, as if thus providing securely for a future supply of provision. In the abundance however, which surrounds him in the ample store-house of nature, he soon loses sight of this needless and sportive economy, and like the thievish Pie and Jay, he suffers his forgotten store to remain drying and bleaching in the elements till no longer palatable or digestible to their hoarder. As this little Butcher, like his more common European representative, preys upon birds, these impaled grasshoppers were imagined to be lures to attract his victims, but his courage and rapacity render such snares both useless and improbable, as he has been known, with the temerity of a Falcon, to follow a bird in to an open cage sooner than lose his quarry. Mr. J. Brown, of Cambridge, informs me, that one of these birds had the boldness to attack two Canaries, in a cage, suspended one fine winter's day at the window. The poor songsters in their fears fluttered to the side of the cage, and one of them thrust its head through the bars of his prison, at this instant the wily Butcher tore off his head, and left the body dead in the cage. The cause of the accident seemed wholly mysterious, till, on the following

day, the bold hunter was found to have entered the room, through the open window, with a view to despatch the remaining victim; and, but for timely interference, it would have instantly shared the fate of its companion. On another occasion, while a Mr. Lock, in this vicinity, was engaged in fowling, he wounded a Robin who flew to a little distance and descended to the ground; he soon heard the disabled bird uttering unusual cries, and on approaching found him in the grasp of the Shrike. He snatched up the bird from his devourer; but having tasted blood, it still followed the gentleman, as if determined not to relinquish its proposed prey, and only desisted from the quest on receiving a mortal wound. The propensity for thus singularly securing its prey, is also practised on birds, which it impales in the same manner, and afterwards tears them to pieces at leisure.

From his attempts to imitate the notes of other small birds, in Canada, and some parts of New England, he is sometimes called a *Mocking-bird*. His usual note, like that of the following species, resembles the discordant creaking of a sign-board hinge; and my friend Mr. Brown has heard one mimicking the quacking of his ducks, so that they answered to him as to a decoy fowl. They also imitate other birds, and I have been informed that they sing pretty well themselves, at times, or rather chatter, and mimic the songs of other birds, as if with a view to entice them into sight, for the purpose of making them their prey. This fondness for imitation, as in the Pies, may however be merely the result of caprice.

The parents and their brood move in company in quest of their subsistence, and remain together the whole season. The male boldly attacks even the Hawk or the Eagle in their defence, and with such fury that these generally decline the onset.

This species is from 10 to 10½ inches in length, and 13 to 14 in alar expansion. Above, the adult is pale cinereous, with the sides of the head nearly white, crossed with a bar of black that passes from the nostril through the eye to the middle of the neck. Beneath sometimes nearly *white*, at other times inclining to dusky, and marked rather thickly with varied lines of a darker hue (each of the feathers marked with 2 or 3 of these rounding transverse bars). The wings are black, with a spot of white on the primaries just below their coverts. Rump and tail coverts light ash. Tail cuneiform of 12 feathers (in the adult), the 2 middle ones only black (in the young 4), the others are tipped with white, and the outer pair nearly all white. The legs, feet, and bill towards its point, black. Iris bright hazel. In the specific character it will be seen that the young differs so much from the adult as to disannul the marks of specification.

LOGGER-HEAD SHRIKE.

(*Lanius ludovicianus*, LIN. *L. carolinensis*, AUDUBON, pl. 57. [a fine group]. WILSON, iii. p. 57. pl. 22. fig. 8. Philad. Museum, No. 557.)

SP. CHARACT.—Dark slate color; beneath white; frontlet, wings, and tail black; the tail-feathers, with the exception of the 4 middle ones, partly white; 2d primary longest; the 1st and 5th equal.

THIS species, much resembling the last, inhabits only the warmer parts of the United States, residing and breeding from North Carolina to Florida, where I have observed it likewise in winter. It was also seen in the table-land of Mexico by that enterprising naturalist and collector, Mr. Bullock. According to Audubon, it always affects the low countries, being seldom met with in the mountainous districts, though they may happen merely to intersect the parts it inhabits. Its farthest inland migrations are only into the states of Mississippi and Louisiana, where it is observed merely to pass the winter months.

Its habits are shy and retiring, and it renders itself useful, and claims protection, by destroying mice around the plantation, for which it sits and watches near the rice stacks for hours together, seldom failing of its prey as soon as it appears. Like most of the genus, he is also well satisfied with large insects, crickets, and grasshoppers. He has no song, and Wilson and Audubon compare his call to the creaking of a sign-board in windy weather; he probably, however, has the usual talent for mimicry. The latter informs us, that the species begin to pair about March, and show very little affection in their mutual deportment. The nest is fixed in a low bush, generally a hawthorn, and is but little concealed. It is coarsely made of dry crooked twigs, and lined with root fibres, and slender grass. The eggs, 3 to 5, are greenish white. Incubation is performed by both sexes in turn, but each bird procures its own food in the intervals. They rear only one brood in the season. Its manners resemble those of a Hawk; it sits silent and watchful, until it espies its prey on the ground, when it pounces upon it, and strikes first with the bill, in the manner of small birds, seizing the object immediately after in its claws; but it never attacks birds or impales its prey like the preceding species.*

The Logger-head Shrike is 9 inches long, and 13 in alar expansion. Above dark grey; the scapulars and line over the eye whitish. Wings black, with a small spot of white at the base of the primaries, and tipped with white. Forehead and sides of the head included in a broad black band. Tail cuneiform, the 4 middle feathers wholly black (in the adult?), the rest more or less tipped with white, to the outer one, which is nearly all white. Below white, sometimes (according to age) marked with faint, waving, pale, dusky lines; the sides tinged with brown. Iris dark hazel. Bill and legs black. — The *Female* is somewhat smaller and darker.

* AUDUBON, Orn. Biog. i. p. 300, 301.

NOTE. The RED-BACKED SHRIKE (*Lanius collurio*, L.) was sent to Count de Buffon from Louisiana, and as (according to Temminck) it is common in South America, there is little doubt but that it may occasionally visit the warmer parts of the United States and Mexico.

This species is only $7\frac{1}{2}$ inches in length, with a grey crown and rump; the back and coverts of the wings of a rufous chestnut color; the throat and abdomen white, the flanks and vent roseate, inclining to rufous. Wings nearly, and 2 middle tail-feathers wholly black, the other tail-feathers white for two thirds of their length. Tail nearly even. The 2d primary longer than the 5th. — The *female* sullied rust-color, with the breast and belly impure white with dusky semicircular lines.

The *Red-backed Shrike* breeds in Sweden in the latter end of April. The nest is large, made in a low, thorny bush, formed of wool and soft withered grass, &c., well put together. The eggs are 5 or 6, blunt, of a roseate tint with reddish spots; or even yellowish, with greyish-green spots in the form of a zone. The male feeds his mate while sitting, and displays great courage in the defence of his brood. They feed on large insects, flies, spiders, young mice, small lizards, grasshoppers, frogs, &c.

THE FLYCATCHERS. (MUSCICAPA. *Lin.*)

IN these the BILL is of moderate magnitude, rather stout, angular, considerably widened and flattened towards the base, which is guarded with longish bristles; the upper mandible is notched towards the end, and bent at the tip. The NOSTRILS basal, lateral, rounded, and partly hid in the advancing hairs. *Feet*, with the tarsus of the length of, or a little longer than, the middle toe; inner toe free, or merely united at the base; hind nail more curved than the rest, and larger than that of the middle toe. *Wings* rather long and somewhat sharp; with the 1st primary very short, the 3d and 4th longest.

These are, in Europe and North America, birds of passage, usually arriving late, and retiring earlier or later in the autumn. They subsist during summer almost wholly upon flies, moths, and other winged insects, which they catch on the wing. They walk badly, and scarcely ever descend to the earth after their food. In autumn they feed much on berries of various kinds, (and here chiefly on

those which are bitter or astringent.) They have generally but a single brood in the season ; they perch on the summits of trees, living in single pairs in the forest where they form their nests, often morning and evening, and sometimes nearly the whole day, taking a station near some stagnant water, and flying to and from this perch alternately after hovering insects. The *broad-billed* North American species are taciturn, or have only a few quaint, stridulous calls and cries, and form no attachment to those who feed them in a state of domestication, yet eat greedily ; these also have only one moult in the year. — In another section, or rather genus, allied to *Sylvia*, the voice is melodious, and the moult of the male double, arriving in the spring in a more brilliant nuptial plumage. The young differ from the adult only during the first year. The shells and drier parts of insects, as well as the skins and seeds of fruits, are brought up from the stomach, and ejected by the bill.

† MUSCIPETA. *With the moult single, and the voice without cadence.*

* Larger species (or TYRANNI).

These are unusually petulant, tyrannical, and courageous, driving sometimes from the vicinity of their nests the most powerful birds of prey.



KING-BIRD, OR TYRANT FLYCATCHER.

(*Muscicapa tyrannus*, BRISS. BONAP. AUDUBON, pl. 79. *Lanius tyrannus*, WILSON, ii. p. 67. pl. 13. fig. 1. Phil. Museum, No. 578.)

SP. CHARACT. — Blackish, beneath nearly white; tail even, extending far beyond the wings, black, tipped with white. — *Adult* with a scarlet spot on the crown.

THIS well known, remarkable, and pugnacious bird takes up his summer residence in all the intermediate region, from the temperate parts of Mexico to the unin-

habited and remote interior of Canada.* In all this vast geographical range the King-bird seeks his food and rears his young. According to Audubon, they appear in Louisiana by the middle of March, and about the 20th of April, Wilson remarked their arrival in Pennsylvania, in small parties of 5 or 6; but they are seldom seen in this part of New England before the middle of May. They are now silent and peaceable, until they begin to pair, and form their nests, which takes place from the 1st to the last week in May, or early in June, according to the advancement of the season in the latitudes of 40 and 43 degrees. The nest is usually built in the orchard, on the horizontal branch of an apple, or pear tree, sometimes in an oak, in the adjoining forest, at various heights from the ground, seldom carefully concealed, and firmly fixed at the bottom to the supporting twigs of the branch. The outside consists of coarse stalks of dead grass and wiry weeds, the whole well connected and bedded with cud-weed * down, tow, or an occasional rope-yarn, and wool; it is then lined with dry, slender grass, root fibres, and horse-hair. The eggs are generally 3 to 5, yellowish white, and marked with a few large, well defined spots of deep and bright brown. They often build and hatch twice in the season.

The King-bird has no song, only a shrill guttural twitter, somewhat like that of the Martin, but no way musical. At times, as he sits watching his prey, he calls to his mate with a harsh *tshéÿp*, rather quickly pronounced, and attended with some action. As insects approach him, or as he darts after them, the snapping of his bill is heard, like the shutting of a watch-case, and is the certain grave of his prey. Beetles, grasshoppers, crickets, and winged insects of all descriptions form his principal

* Being seen by Mr. Say at Pembino, lat. 49°.

† *Gnaphalium plantagineum*.

summer food. I have also seen them collecting the canker-worms from the Elm. Towards autumn, as various kinds of berries ripen, these constitute a very considerable and favorite part of his subsistence; but, with the exception of currants (of which he only eats perhaps when confined), he refuses all exotic productions, contenting himself with black-berries, whortle-berries, those of the sassafras, cornel, Viburnum, elder, poke, and 5-leaved ivy.* Raisins, foreign currants, grapes, cherries, peaches, pears, and apples were never even tasted, when offered to a bird of this kind, which I had many months as my pensioner; of the last, when roasted, sometimes, however, a few mouthfuls were relished, in the absence of other more agreeable diet. Berries he always swallowed whole, grasshoppers, if too large, were pounded and broken on the floor, as he held them in his bill. To manage the larger beetles was not so easy; these he struck repeatedly against the ground, and then turned them from side to side, by throwing them dexterously into the air, after the manner of the Toucan, and the insect was uniformly caught reversed as it descended, with the agility of a practised cup-and-ball player. At length, the pieces of the beetle were swallowed, and he remained still to digest his morsel, tasting it distinctly, soon after it entered the stomach, as became obvious by the ruminating motion of his mandibles. When the soluble portion was taken up, large pellets of the indigestible legs, wings, and shells, as likewise the skins and seeds of berries, were, in half an hour or less, brought up and ejected from the mouth in the manner of the Hawks and Owls. When other food failed, he appeared very well satisfied with fresh minced meat, and drank water frequently, even during the severe frosts of January, which he

**Cissus hederacea*.

endured without much difficulty ; basking, however, like Diogenes, in the feeble beams of the sun, which he followed round the room of his confinement, well satisfied, when no intruder or companion threw him into the shade ! Some very cold evenings he had the sagacity to retire under the shelter of a depending bed-quilt ; was very much pleased with the warmth and brilliancy of lamp-light, and would eat freely at any hour of the night. Unacquainted with the deceptive nature of shadows, he sometimes snatched at them for the substances they resembled. Unlike the *Vireos*, he retired to rest without hiding his head in the wing, and was extremely watchful, though not abroad till after sunrise. His taciturnity, and disinclination to friendship and familiarity in confinement, were striking traits. His restless, quick, and side glancing eye, enabled him to follow the motions of his flying insect prey, and to ascertain precisely the infallible instant of attack. He readily caught morsels of food in his bill before they reached the ground, when thrown across the room ; and, on these occasions, seemed pleased with making the necessary exertion. He had also a practice of cautiously stretching out his neck, like a snake, and peeping about, either to obtain sight of his food, to watch any approach of danger, or to examine any thing that appeared strange. At length we became so well acquainted, that when very hungry, he would express his gratitude on being fed, by a shrill twitter, and a lively look, which was the more remarkable, as at nearly all other times he was entirely silent.

In a natural state he takes his station on the top of an apple-tree, or a stake, or tall weed, and betwixt the amusement of his squeaking twitter, employs himself in darting after his insect food. Occasionally he is seen hovering over the field, with beating wing, almost like a

Hawk, surveying the ground or herbage for grasshoppers, which are a favorite diet. At other times, they may be observed in small companies flickering over still waters in the same employment, the gratification of appetite. Now and then, during the heat of summer, they are seen to dip and bathe, in the watery mirror, and with this washing, drying, and pluming, they appear to be both gratified and amused. During the season of their sojourn, the pair are often seen moving about in company, with a rapid quivering of the wings, and a continued tremulous shrieking twitter. Their energetic and amusing motions are most commonly performed in warm and fine weather, and continue, with little interruption, until towards the close of August.

One of the most remarkable traits in the character of the King-bird is the courage and affection which he displays for his mate and young; for on his first arrival he is rather timid, and readily dodges before the Swallow and Purple Martin. Indeed at this season I have seen the spotted Sandpiper* drive away a pair of King-birds, because they happened to approach the premises of her nest. But he now becomes, on this important occasion, so tenacious of his rights as readily to commence the attack against all his feathered enemies, and he passes several months of the summer in a scene of almost perpetual contest, and not overrating his hostile powers, he generally finds means to come off with impunity. Eagles, Hawks, Crows, Jays, and in short every bird which excites his suspicion, by their intentional or accidental approach, are attacked with skill and courage; he dives upon the heads and backs of the larger intruders, who become so annoyed and tormented as willingly to make a precipitate retreat. He pursues his foes sometimes for a mile; and at

* *Totanus macularius*.

length, assured of conquest, he returns to his prominent watch-ground, again quivering his wings in gratulation, and rapidly uttering his shrill and triumphant notes. He is therefore the friend of the farmer, as the scourge of the pilferers and plunderers of his crop and barn-yard. But that he might not be perfectly harmless, he has sometimes a propensity for feeding on the valuable tenants of the bee-hive; for these he watches, and exultingly twitters at the prospect of success, as they wing their way engaged in busy employment; his quick-sighted eyes now follow them, until one, more suitable than the rest, becomes his favorite mark. This selected victim is by some farmers believed to be a drone rather than the stinging neutral worker. The selective discernment of the eyes of this bird has often amused me; berries of different kinds, held to my domestic King-bird, however similar, were rejected or snatched, as they suited his instinct, with the nicest discrimination.

As the young acquire strength for their distant journey, they may be seen in August and September, assembling together in almost silent, greedy, and watchful parties of a dozen or more, feeding on various berries, particularly those of the sassafras and cornel, from whence they sometimes drive away smaller birds, and likewise spar and chase each other as the supply diminishes. Indeed, my domestic allowed no other bird to live in peace near him, when feeding on similar food, and though lame of a wing, he often watched his opportunity for reprisal and revenge, and became so jealous, that instead of being amused by companions, sometimes he caught hold of them with his bill, and seemed inclined to destroy them for invading his usurped privileges. In September the King-bird begins to leave the United States, and proceeds to pass the winter in tropical America. During the period of migration

southward, Audubon remarks that they fly and sail through the air with great ease, at a considerable elevation ; and they thus continue their silent retreat throughout the night, until about the first of October, when they are no longer to be seen within the limits of the Middle States.

The King-bird (called also *Field Martin* in Maryland and the Southern States) is about 8 inches in length, and 14 in alar extent. The general color above is a dark ash color approaching to black. The head and tail are nearly black, the latter tipped with white ; the wings have something of a brownish umber cast. Upper part of the breast tinged with ash, the rest of the lower parts are pure white. The plumage of the crown, though even when the bird is at rest, can be, at will, erected, so as to form a rough crest ; below the black surface of which is seen a bed of scarlet inclining to orange, surrounded and based often with white ; this constitutes the crown of our feathered monarch. The bill is very broad at the base, and black. The legs and feet are also black. The iris hazel. The young birds receive the orange on the crown the first season.

GREAT CRESTED FLYCATCHER.

(*Muscicapa crinita*, L. WILSON, ii. p. 75. pl. 13. fig. 2. Philad. Museum, No. 6645.)

SP. CHARACTER.—Greenish-olive ; throat pale ash ; belly yellow ; wing and tail feathers ferruginous on the inner webs.

THIS species, nearly unknown in New England, arrives in Pennsylvania early in May, and builds his nest in the deserted holes of the Woodpecker or Blue-bird. He also frequents the orchard, and is equally fond of Bees with the King-bird. He has no other note than a harsh squeak, which sounds like '*paíp*, '*païp* or '*payûp*, '*paywip*, with a strong accent on the first syllable. He preys actively on insects which he collects from his stand ; and, in short,

has most of the manners and physiognomy of the whole section or family to which he belongs. The nest being formed in the hollow of a tree, the materials are consequently scant, but somewhat novel; being, according to Catesby and Wilson, a little loose hay, and large feathers, with hogs' bristles, dogs' hair, and pieces of cast snake-skins, the last of which, though an extraordinary material, is rarely wanting, its elastic softness forming a suitable bed for the young. The eggs are said to be 4, of a dull white, thickly marked with scratches and purple lines of various tints, as if laid on with a pen. The note of the male appears often delivered in anger and impatience, and he defends his retreat from the access of all other birds with the tyrannic insolence, characteristic of the King-bird.

Towards the end of summer they feed on berries of various kinds, being particularly partial to whortle-berries, which, for a time, seem to constitute the principal food of the young. They remain in Pennsylvania till about the middle of September, when they retire to tropical America. In July, 1831, I observed a pair in an orchard at Acton, in this State (Mass.) They had reared a brood in the vicinity, and still appeared very stationary on the premises; their harsh '*payup*', and sometimes a slender twittering as they took the perch, were heard almost from morn to night, and resembled at first the chirp of a young Robin. They fed on the caterpillars or vermin of some kind which happened to infest the apple-trees. I was told that it uttered a different and more musical note about sunrise, but of this I cannot speak from my own knowledge. They are unknown in the vicinity of the sea-coast of Massachusetts.

This species is $8\frac{1}{2}$ inches long, and 13 in alar extent. Above, the color is dull greenish olive; the feathers of the head pointed, and

centred with dark brown, the whole forming a sort of spreading cap or crest. Wing-coverts crossed with two irregular bars of yellowish white. Primaries bright ferruginous. Tail slightly forked. Bill, legs, and feet greyish black. Iris hazel. The female is scarcely distinguishable from the male.

ARKANSA FLYCATCHER.

(*Muscicapa verticalis*, BONAP. Am. Orn. i. p. 18. pl. 2. fig. 2. *Tyrannus verticalis*, SAY. Philad. Museum, No. 6624.)

SP. CHARACT. — Head and throat ash; a small orange spot on the crown; belly yellow; tail blackish, the exterior feather white on the outer web.

WE are indebted to Mr. Say, the well known naturalist, for the discovery of this recently known species of Flycatcher, which appears to inhabit all the region west of the Missouri river. The specimen obtained, in the beginning of July, near the banks of the river Platte, and only a few days' march from the Rocky mountains, was a male,

The length of this species is 8 inches. The head above, and hind-head are pale lead-color. Beneath the surface of the crown there is a small bright orange spot, also a dusky space between the bill and eyes. The lead-color of the back is tinged with olive, the rump and upper tail coverts approaching to blackish. Throat and upper part of the breast very pale plumbeous, beyond which all the under parts are yellow. The wings umber brown; the 1st primary very narrow. Tail deep brown-black, very slightly forked; the exterior feather is white on the outer web. It is allied to the *Muscicapa ferox* of South America.

FORK-TAILED FLYCATCHER.

(*Muscicapa savana*, BONAP. Am. Orn. i. p. 1. pl. 1. fig. 1. *M. tyrannus*, LIN. Philad. Museum, No. 6620.)

SP. CHARACT.—Cinereous; head black; a fulvous spot on the crown; beneath white; tail 10 inches long, extremely forked and black.

THIS splendid bird is a resident in the tropical wilds of Guiana, where it is said to be common, and was found also by Commerson near the banks of La Plata and in the woods of Monte Video. It is only a straggler in the United States, from one of which accidental visitors, near Bridgetown in New Jersey, in the first week in December, was made the splendid engraving which accompanies the account of this bird in Prince Bonaparte's Ornithology.

In its habits it resembles the other native species of the genus, is a solitary bird, remaining for a long time perched on the limb of a tree, from whence it occasionally darts after passing insects, or flying downwards, it alights on the tufted herbage arising above the partially drowned savannas, beyond whose limits this sedentary species but seldom strays. While seated, his long train is in motion like that of the Wagtail. Besides insects, like our King-bird, he feeds on berries, and this individual had his stomach distended with those of the Poke plant.* South America affords two other species resembling the present, and equally remarkable for the singular length and forking of the tail-feathers.

The length of the Fork-tailed Flycatcher is 14 inches, its tail alone measuring nearly 10. The alar extent is also 14 inches. The upper part of the head and cheeks is deep black. The feathers of

* *Paptolacca decandra*, L.

the crown are somewhat slender, elevated, of a yellow-orange, forming a brilliant spot, only visible, however, when the crested cap is elevated; the remaining part of the neck and back are greyish-ash; the rump is darker, and gradually passes into the black of the superior tail-coverts. Beneath white. Wings dusky; the 1st primary edged with whitish on the outer web, and equal in length to the 4th; the 2d longest; the 3 outer have a deep sinus on their inner webs near the tip, so as to terminate in a slender process. The tail is black and very deeply and widely forked; the 2 exterior feathers 10 inches, the 2 next succeeding only 5, and the other feathers become gradually and proportionally shorter, until those in the middle are scarcely 2 inches in length; the long exterior tail-feather is white on the remarkably narrow outer web, and on the shaft beneath for nearly $\frac{3}{4}$ of its length.

SWALLOW-TAILED FLYCATCHER.

(*Muscicapa forficata*, GM. BONAP. Am. Orn. i. p. 15. pl. 2. fig. 1.
Philad. Museum, No. 6623.)

SP. CHARACT. — Light cinereous; beneath white; axillary feathers scarlet; tail greatly elongated, deeply forked, black, the outer feathers chiefly rosaceous.

THIS very beautiful and singular species of Fly-catcher is confined wholly to the open plains and scanty forests of the remote southwestern regions beyond the Mississippi, where they, in all probability, extend their residence to the high plains of Mexico. I found these birds rather common near the banks of Red River, about the confluence of the Kiamesha. I again saw them more abundant, near the Great Salt River of the Arkansa in the month of August, when the young and old appeared, like our King-birds, assembling together previously to their departure for the south. They alighted repeatedly on the tall plants of the prairie, and were probably preying upon the grasshoppers, which were now abundant. At

this time also they were wholly silent, and flitted before our path with suspicion and timidity. A week or two after we saw them no more, having retired probably to tropical winter quarters.

In the month of May, a pair, which I daily saw for three or four weeks, had made a nest on the horizontal branch of an Elm, probably 12 or more feet from the ground. I did not examine it very near, but it appeared externally composed of coarse dry grass. The female, when first seen, was engaged in sitting, and her mate wildly attacked every bird which approached their residence. This harsh chirping note of the male, kept up at intervals, as remarked by Mr. Say, almost resembled the barking of the Prairie Marmot, 'tsh 'tsh 'tsh. His flowing, kite-like tail, spread or contracted at will while flying, is a singular trait in his plumage, and rendered him conspicuously beautiful to the most careless observer.

This fine bird is about 11 inches in length. The upper part of the head and neck is light grey; back and scapulars dark cinereous, tinged with reddish-brown; the rump of the same color but inclined to black, upper tail-coverts deep black. Beneath milk white, the flanks tinged with red; the inferior tail-coverts pale rosaceous. Wings brownish black, the upper coverts and secondaries margined externally and at tip with dull whitish; under wing-coverts white, tinged with rose; axillary feathers above and beneath of a vivid scarlet. The tail very long and deeply forked, of a perfect black, each feather with its terminal margin of a dull whitish tint; the 3 exterior feathers on each side are of a pale rosaceous color, on a considerable part of their length from their bases; the external one is $5\frac{1}{2}$ inches long, the 2d and 3d decrease gradually, but the 4th is disproportionately shorter; from this feather there is a gradual decrease to the 6th, which is little more than 2 inches long. Bill and feet blackish. Irids brown. Female nearly similar to the male.

* * *Smaller species* (or ordinary MUSCIPETÆ.)

These hardly require separation from the former division, with which they agree in every thing but size.

SAY'S FLYCATCHER.

(*Muscicapa Saya*, BONAP. i. p. 20. pl. 2. fig. 3. Philad. Museum, No. 6831.)

SP. CHARACT. — Dull cinnamon-brown; belly pale rufous; tail nearly even; the 1st primary longer than the 6th.

THIS species was obtained by Mr. T. Peale, one of the naturalists who accompanied Major Long's expedition, in the vicinity of the Arkansas River, and about 20 miles from the Rocky Mountains. Prince Bonaparte imagines it may be a tropical American species, indicated under the inadmissible name of *M. obscura* by Vieillot.

This Flycatcher strongly resembles the Common Pewee (*M. fusca*.), having even the same note, but delivered in a different and distinguishing tone. Its nest, found in July, was built in a tree, and consisted chiefly of moss and clay, interwoven with a few blades of dried grass. The young were just ready to fly.

The length of Say's Fly-catcher is 7 inches. Above, dull cinnamon-brown, becoming darker on the head. Beneath, throat, and breast of the same dull cinnamon tint, gradually passing into the pale rufous of the abdomen; the under wing-coverts white, slightly tinged with rufous. The primaries dusky, tinged with cinnamon; the 1st a quarter of an inch shorter than the 2d, which is nearly as long as the 3d; the 3d longest; the 4th and 5th gradually decrease, and the 6th is shorter than the 1st. The tail is scarcely notched and blackish-brown. The bill is remarkably flattened, the upper mandible blackish, the lower pale horn-color below. The feet are also blackish; and the irids brown.



PEWIT FLYCATCHER, or PHOEBE.

(*Muscicapa atra* Gm. *M. Phæbe*, LATH. *M. fusca*. BONAP. *M. nunciola*, WILSON, ii. p. 78. pl. 13. fig. 4. Phil. Museum, No. 6618.)

SP. CHARACT.—Dark olive-brown, darker on the head; beneath pale yellowish; bill black; tail emarginate, extending an inch and a half beyond the closed wings; the exterior feather whitish on the outer web.

THIS familiar species inhabits the continent of North America, from Canada to Florida, retiring from the Northern and Middle States at the approach of winter. How far they proceed to the south at this season is not satisfactorily ascertained; a few, no doubt, winter in the milder parts of the Union, as Wilson saw them in February in the swamps of North and South Carolina, where they were feeding on smilax berries, and occasionally even giving their well known notes; but in the winter, and early spring of 1830, while employed in an extensive pedestrian journey from South Carolina to Florida and

Alabama, I never heard or met with an individual of the species.

This faithful messenger of spring returns to Pennsylvania as early as the first week in March, remains till October, and sometimes nearly to the middle of November. In Massachusetts, they arrive about the beginning of April, and at first chiefly frequent the woods.

Their favorite resort is near streams, ponds, or stagnant waters, about bridges, caves, and barns, where they choose to breed; and, in short, wherever there is a good prospect for obtaining their insect food. Near such places our little hunter sits on the roof of some out-building, on a stake of the fence, or a projecting branch, calling out, at short intervals, and in a rapid manner *phebè phebè*, and at times in a more plaintive tone *phœc-bè-ee*. This quaint and querulous note, occasionally approaching to a warble, sometimes also sounds like *pewait pewait*, and then *pě-wai-ee*, also, *phebè phě-bè-ee*, twice alternated, the latter phrase somewhat soft and twittering. In the spring this not unpleasing guttural warble is kept up for hours together, until late in the morning, and though not loud, may be heard to a considerable distance. From a roof I have heard these notes full half a mile across the water of a small lake; and this cheerful, though monotonous ditty, is only interrupted for a few seconds, as the performer darts and sweeps after his retreating prey of flies, frequently flirting and quivering his tail and elevating his feathery cap, while sharply watching the motions of his fickle game.

In the Middle States he begins to construct his nest about the latter end of March, in Massachusetts not before the first week in April. The nest is situated under a bridge, in a cave, the sides of a well 5 or 6 feet down, under a shed, or in the shelter of the low eaves of a cot-

tage, and even in an empty kitchen ; sometimes it rests on a beam, though it is frequently attached to the side of a piece of roofing timber in the manner of the Swallow. The outside is generally made of a mixture of moss (*Hypnum*) and clay, and formed with considerable solidity ; inside it is lined with flaxy fibres, films of bark, wool, horse-hair, or only with dry grass. The nest is also sometimes made merely of mud, root-fibres, and withered grass. The eggs are about 5, pure white, without any spots.

According to the touching relation of Wilson, this humble and inoffensive bird, forms conjugal attachments, which probably continue through life ; for, like the faithful Blue-birds, a pair continued for several years to frequent and build in a romantic cave, in the forest which made part of the estate of the venerable naturalist, William Bartram. Here our unfortunate birds had again taken up their welcome lease for the summer, again chanted forth their simple lay of affection, and cheered my aged friend with the certain news of spring ; when unexpectedly a party of idle boys, one fatal *Saturday*, destroyed with the gun the parents of this old and peaceful settlement ; and from that time forward no other pair were ever seen around this once happy, now desolate spot.

Their attachment to particular places is indeed remarkable. About the middle of April, 1831, at the Fresh Pond Hotel, in this vicinity, 3 different nests were begun in the public boat-house, which may be here considered almost as a thoroughfare ; only one nest, however, was completed : and we could not help admiring the courage and devotedness with which the parents fed their young, and took their alternate station by the side of the nest, undaunted in our presence, only now and then uttering a *'tship* when observed too narrowly. Some ruffian at length tore down the nest, and carried off the brood, but

our Phebes immediately commenced a new fabric, and laid 5 additional eggs in the same place with the first; and, in haste to finish their habitation, they had lined it with the silvery shreds of a Manilla rope, which they had discovered in the contiguous loft over the boat-house. For several previous seasons they had taken up their abode in this vicinity, and seemed unwilling to remove from the neighbourhood they had once chosen in spite of the most untoward circumstances.

Towards the time of their departure for the south, which is about the middle of October, they are silent, and previously utter their notes more seldom, as if mourning the decay of nature, and anticipating the approaching famine which now urges their migration. In Massachusetts the Phebe rarely raises more than a single brood in the season, unless, as in the instance related, they have had the misfortune to lose the first hatch. The young, dispersed through the woods in small numbers, may now and then be heard to the close of September, exercising their feeble voices in a guttural *phébé*. But the old birds are almost wholly silent, or but little heard, as they flit timidly through the woods, when once released from the cares of rearing their infant brood; so that here the Phebe's note is almost a concomitant of spring and the mildest opening of summer; it is, indeed, much more vigorous in April and May than at any succeeding period.

The Pewee is 7 inches in length, and $9\frac{1}{2}$ in alar extent. Above dark dusky olive; the head brownish black, with an erectile crested cap, like all the rest of this North American family of Flycatchers, with the exception of the Redstart (*M. ruticilla*). Wings and tail dusky, approaching to black, the former edged on every feather with yellowish white, the latter forked. Below pale whitish yellow, brighter on the abdomen. Legs and *bill wholly black*. Iris hazel. The sexes almost entirely similar.

OLIVE-SIDED FLYCATCHER, OR 'PĚ-PE.'

(*Muscicapa* * *Cooperi*, *M. inornata*, NOBIS, Nat. Sci. Philad. et D.
COOPER in litt.)

SP. CHARACTER. — Dusky-brown, head darker, without discolored spot; sides olive-grey; lateral space beneath the wing white; lower mandible purplish horn-color; tail nearly even, and extending but little beyond the closed wings; 2d primary longest.

THIS undescribed species, which appertains to the group of Pewees, was obtained in the woods of Sweet Auburn, in this vicinity, by Mr. John Bethune, of Cambridge, on the 7th of June, 1830. This, and a second specimen, acquired soon afterwards, were females on the point of incubation. A third individual of the same sex was killed on the 21st of June, 1831. They were all of them fat, and had their stomachs filled with torn fragments of wild bees, wasps, and other similar insects. I have watched the motions of two other living individuals, who appeared tyrannical and quarrelsome even with each other; the attack was always accompanied with a whirring, querulous twitter. Their dispute was apparently, like that of savages, about the rights of their respective hunting-grounds. One of the birds, the female, whom I usually saw alone, was uncommonly sedentary. The territory she seemed determined to claim was circumscribed by the tops of a cluster of tall Virginia junipers or red cedars, and an adjoining elm, and decayed cherry tree. From this sovereign station, in the solitude of a barren and sandy piece of forest, adjoining Sweet Auburn, she kept a sharp lookout for passing insects, and pursued them with great vigor and success as soon as they appeared, sometimes chasing them to the ground, and generally resuming her perch with an additional mouthful, which she swallowed at leisure. On descending to her station, the occasionally quivered her wings and tail, erected her

blowsy cap, and kept up a whistling, oft repeated, whining call of 'pŭ 'pŭ, then varied to 'pŭ 'pĭp, and 'pĭp pŭ, also at times 'pĭp 'pĭp 'pŭ, 'pĭp 'pĭp 'pĭp, 'pŭ 'pŭ pĭp, or 'tŭ 'tŭ 'tŭ, and 'tŭ 'tŭ. This shrill, pensive, and quick whistle sometimes dropped almost to a whisper, or merely 'pŭ. The tone was in fact much like that of the 'phŭ 'phŭ 'phŭ of the Fish Hawk. The male, however, besides this note, at long intervals, had a call of 'eh'phèbēē, or 'h'phebéā, almost exactly in the tone of the circular tin whistle, or bird-call, being loud, shrill, and guttural at the commencement. The nest of this pair I at length discovered, in the horizontal branch of a tall red cedar 40 or 50 feet from the ground. It was formed much in the manner of the King-bird, externally made of interlaced dead twigs of the cedar, internally of the wiry stolons of the common cinquefoil, dry grass, and some fragments of branching *Lichen* or *Usnea*. It contained 3 young, and had probably 4 eggs. The eggs had been hatched about the 20th of June, so that the pair had arrived in this vicinity about the close of May.

The young remained in the nest no less than 23 days, and were fed from the first on beetles and perfect insects, which appeared to have been wholly digested without any regurgitation. Towards the close of this protracted period the young could fly with all the celerity of the parents; and they probably went to and from the nest repeatedly before abandoning it. The male was at this time extremely watchful, and frequently followed me from his usual residence, after my paying him a visit, nearly half a mile. These birds, which I watched on several successive days, were no way timid, and allowed me for some time, previous to visiting their nest, to investigate them and the premises they had chosen, without showing any sign of alarm, or particular observation.

The Tyrannulet of Buffon, (vol. v. pl. 537,) or *Pe pe re*, approaches near to this species both in size and color, but is distinguishable by the band of yellow on the head, beneath the surface of the feathers. The habits of both are very similar. The South American birds live in the solitude of the forest by pairs, nesting in hollow trees, or in the bifurcation of some branch, chanting forth their quaint *pe pe re*, about the break of day, which they announce with more precision even than our domestic cock. They are likewise very pugnacious in defence of their young. *Muscicapa barbata* of Cayenne, has also some affinity with our species, and utters a *pe pe*, or somewhat similar note. (Vol. v. p. 277 of the same author.)

My friend W. Cooper, Esq., so well known for his devotion to Ornithology, received this bird likewise the preceding summer from the vicinity of Cape May, and Egg-harbour, in New Jersey. The supposed young bird of the Crested Fly-catcher, cinereous above and white on the belly, mentioned by Pennant, might perhaps have been the present species.

The length of the Olive-Sided Pewee is about $6\frac{1}{2}$ to 7 inches. Like the rest of the family to which it belongs, it has a blowsy cap or crest, erectile at will; the color of this part is very dark brown, but with the hind-head inclined to dark ash, which is the prevailing color of the back. The wings and tail are dusky-brown, without any particle of white; the secondaries and their coverts edged with whitish; the second primary longest and the 1st and 3d equal. The tail emarginate, extending only about $\frac{3}{4}$ of an inch beyond the closed wings. Bill very broad, nearly $\frac{1}{2}$ an inch; rictus bright yellow, as well as the inside of the mouth and tongue; the latter somewhat cordate and bifid at tip; the upper mandible distinctly carinated, and black; the lower, purplish horn-yellow, lighter towards the base. Chin white. The sides dusky olive, a broad line down the middle of the breast, with the abdomen and rump yellowish white; a broadish white space on the side, beneath the wing towards the back, extending almost to the region of the rump. Legs and feet black. Irids dark hazel. This species, though of the size of the King-bird, is nearly related to the Wood Pewee, yet perfectly distinct.

Mr. Cooper, by letter, has obligingly informed me, that Prince Musignano, thinks this bird may be described by Pennant. His dusky Flycatcher, is evidently, our Phebe, the *M. atra*. of Gmelin. *M. fusca* does not essentially differ from that species, either according to Catesby's bad figure, or Brisson's exact description; in both authors the bill is black, and the tail long, circumstances wanting in our bird. I have therefore dedicated it to our friend who tells me that the appropriate name we had mutually thought of, *M. inornata*, is already given to the East India species.

WOOD PEWEE.

(*Muscicapa virens*, LIN. *M. rapax*, WILSON, ii. p. 81. pl. 13. fig. 5. Philad. Museum, No. 6660.)

SP. CHARACT. — Dusky brownish-olive, beneath pale yellowish; bill black, beneath dilute yellow; 2d primary longest; 1st much shorter than the 3d and longer than the 6th.

THIS species has much the appearance of the Common Pewee, or Phebe, but differs essentially by its note and habits. The Wood Pewee appears to winter south of the United States, and scarcely arrives in Pennsylvania or New England before the middle of May; its migrations, in all probability, extend to Canada. It is a solitary species, frequenting gloomy forests, and dark orchards, where watching on some dead and projecting branch for its insect prey, it sweeps at intervals amidst the shade, and the occasional snapping of its bill announces the success of its flight. It then again alights as before, sometimes uttering a sort of gratulatory low twitter, accompanied by a quivering of the wings and tail, and in the lapse of its employment, in a feeble, sighing tone, often cries *pee-wée* or *pee-é*, and sometimes *pē-wee pewittitee* or *pewittee pē-weē*. This note is continued often till quite late in the evening, at which time many of the insect brood and moths are abundant. Most of these birds, indeed, appear capable of collecting their food by the feeblest light, the only

season when some of their favorite prey ever stir abroad. This species also appears particularly fond of small wild bees. From June to September, its solitary notes are heard in the field and forest, after which time, preparing for its departure, and intently gleaning food in every situation, it sometimes approaches the city, often examines the courts and gardens, at the same time feeding and training its young to the habits of their subsistence, and, about the first week in October, it retires south to pass the winter.

The *Péwee* is a very expert and cautious flycatcher, and as if aware of the drowsiness of insects in the absence of the sun's broad light, he is on the alert at day-dawn after his prey. At this early period, and often in the dusk of evening, for the most part of summer till the middle of August, he serenades the neighbourhood of his mansion from 3 to 4 or 5 o'clock in the morning, with an almost uninterrupted chanting ditty, sweet, but monotonous, like *pé-ay pāy-wěe*, *pé-ay pāy-wěe*, then in a little higher and less sing-song tone, his usual and more serious *pec-ă-wee*. In dark and damp mornings, this curious warble is sometimes continued nearly to 8 o'clock ; and the effect of this tender, lulling lay, in the grey dawn, before the awakening of other birds, and their mingling chorus, is singular, and peculiarly pleasing. It is a gratulatory feeling of unmixed and placid delight, concomitant with the mild reviving light of the opening day, and the perfect joy of the mated male, satisfied in every reasonable desire ; in short, a hymn of praise to the benevolent Author and Supporter of existence !

Towards the period of departure they become wholly silent, and, driven to extremity, they may now be seen watching the stagnant pools and ponds, dipping occasionally into the still surface after their drowsy and languid prey. Like the King-bird, this species at times displays

a tyrannical disposition, and I have observed one to chase a harmless Sparrow to the ground for safety, who merely by inadvertence happened to approach the station he had temporarily chosen for collecting his insect game.

The notes of *peto-wāy peto-wāy pee-way* are never uttered by this species; but on the 12th of February, 1830, in Alabama, I heard, at that season, a bird uttering this note, and several times afterwards I saw a rather large and dark Flycatcher in the Pine woods, to which I attributed this call, and which must be a distinct species, as its notes bear no resemblance to those of the Wood Pewee, at this season, probably, in South America.

The Pewee, I believe, raises here but a single brood, which are not abroad before the middle of July. The nest is extremely neat and curious, almost universally saddled upon an old moss-grown and decayed limb in an horizontal position, and is so remarkably shallow, and incorporated upon the branch, as to be very easily overlooked. The body of the fabric consists of wiry grass or root fibres, often blended with small branching lichens, held together with cob-webs, and caterpillar's silk, moistened with saliva; externally it is so coated over with blueish crustaceous lichens as to be hardly discernible from the moss upon the tree. It is lined with finer root fibres or slender grass-stalks. Some nests are, however, scarcely lined at all, being so thin as readily to admit the light through them, and are often very lousy with a species of *acarus*, which probably infests the old birds. The eggs, 3 or 4, are of a yellow cream-color, spotted and blotched, though not profusely, towards the great end with two shades of lilac, and dark brown.

The Wood Pewee is about 6 inches in length; alar extent 10. Above dusky olive. Head, as usual, partly crested, brownish black. Below pale yellowish, inclining to white. Tail forked. The female a little smaller.

SMALL PEWEE.

(*Muscicapa acadica*, GM. *M. querula*, WILSON, ii. p. 77. pl. 13. fig. 3.
M. Traillii? AUDUBON, pl. 45. Philad. Museum. No. 6825.)

SP. CHARACT.—Dusky olive-green, below yellowish white; bill black, beneath dull flesh-color; 3d primary longest, 1st and 6th equal.

THIS is one of our most common summer birds in this part of New England, arriving from the South about the last week in April, and leaving us, to retire probably to tropical America, about the beginning of September, or sometimes a little later. They also extend their migrations to Labrador, and seem most abundant in the Northern and Eastern States. Though, like the preceding, it is a solitary, retiring bird, and fond of the shade of the forest, yet in this vicinity, their nests are numerous. On their first arrival, previous to pairing, they are engaged in constant quarrels about their mates, and often molest other birds whom they happen to see employed in pursuit of the same kind of food with themselves. Like the preceding species, they take their station on a low branch to reconnoitre the passing insects on which they feed, and from time to time make a circular sweep for their prey. When seated, they utter very frequently a sharp, unpleasant squeak, somewhat resembling that of the King-bird, sounding like *queàh*, and sometimes *'tsh'ah*, or *tsheàh*, *tsheàh*, and *tshooé*, with a guttural, snapping sound, succeeded by a kind of querulous, low twitter, uttered as they fly from tree to tree, and chiefly at the instant of alighting. At other times they have a recognising, rather low call of *'whit'whit*, repeated at short intervals; again, in the warmest weather, I have heard one of these Pewees call something like the whistling of *'weet'weet'weet'will*. Occasionally, when fighting or in flying, it also makes an echoing

tshirr. It possesses all the habits of the King-bird, catches bees, flies, and moths, exhibits a variety of quivering motions, and defends its nest with great courage against the approach of larger birds.

The nest of the Small Pewee is usually fixed in the slender, upright forks of a young forest tree, from 6 to 20 or 30 feet from the ground. I have also found the nests on the horizontal branch of an apple tree or forest tree. In most instances, in the woods, a gloomy, solitary situation is chosen. The materials of this fabric vary according to circumstances; for the first brood, a very soft and warm nest is usually made of dry grass, willow, and cudweed down, in large quantities, partly felted or matted together externally with the saliva of the bird. Common tow, if convenient, is also occasionally employed, when the nest is in an apple tree, for which some neighbouring graft is probably unravelled. They likewise sometimes employ bits of wool. The interior is usually formed of slender, narrow strips of bark, bass, and dry grass; the lining is commonly of fine root fibres, slender tops of bent grass, and at times a few hairs and feathers. Occasionally the principal external material consists of strips or strings of silk-weed lint, and the bark of the common virgin's-bower.* The nest is extremely neat and uniform, resembling a complete hemisphere. The eggs are 5, and pure white. As nests may be found late in July, it is probable they have a second brood in the course of the season. They are extremely attached to their offspring, and keep up an incessant, almost choking *tshéàh tshedh*, when any person approaches towards the tree where they have their brood. The young and old now move about in company, and at this time feed on various kinds of berries, particularly those

* *Clematis virginiana*.

of the cornel and the whortle-berry. At length, the young are seen to select each other's society, and rove about without any fixed resort, previous to their gradual departure. A pair, probably of the same brood, still lingered here in September, and like the little Parrots, called Inseparable, appeared fondly to cherish each other's company. It was towards evening when I saw them, and at first they appeared inclined to roost in the shady willow tree on which they had alighted. They nestled close to each other with looks and notes of tenderness and affection; wherever one went the other instantly followed, and the same branch continually presented the same constant pair.

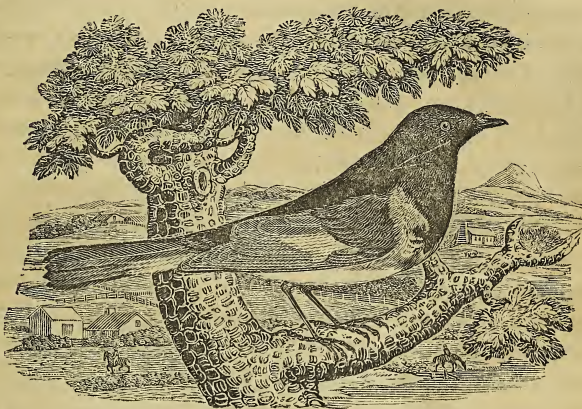
This species is $5\frac{1}{2}$ inches in length, and 9 in alar extent. Above it is dusky olive green. Beneath yellowish-white, inclining to ash color on the breast. The wings are dusky brown, crossed with two bars of brownish or sullied white; a ring of the same surrounds the eye; secondaries edged with whitish, the outer edge of the 1st primary white, under wing-coverts pale yellow; 2d, 3d, and 4th primaries nearly of a length, with the 1st and 6th also equal. Tail pale dusky brown, decidedly emarginate, as in the preceding species; the outer feather margined with whitish. Legs and feet black. Bill, upper mandible blackish-brown, the lower, between horn and flesh color, not remarkable for its breadth. The sexes nearly alike. The white marks considerably clearer in the young before moulting.

Subgenus. — SYLVANIA.* (Genus SETOPHAGA,
Swainson.)

Bill depressed, of moderate width, with elongated bristles at the base, the mandibles of equal length and acute; the upper scarcely notched, slightly bent at tip, but scarcely inflected over the lower. Tarsus longer than the middle toe. 2d and 3d primaries about equal and longest, with the 1st scarcely shorter. Tail rather long and wedge-shaped.

* In reference to its affinity with *Sylvia*, to which genus it was referred by Pennant and Gmelin.

The moult of the male is double, and the voice musical like that of the Sylvias and Vireos, to which it is related, but sufficiently distinct. Nearly allied to the foreign *Malurus* of Vieillot, as well as to the Indian *Phenicornis* of Swainson, in which the brilliant colors and their distribution are very similar, but in that the tail is long, and unequally graduated, and the bill more robust and strongly notched. The nest not pendulous, neat and somewhat artful, resembling that of the Sylvias. This section, including several species, holds probably the rank of a genus, but requires further comparison.



AMERICAN REDSTART.

(*Muscicapa ruticilla*, L. WILSON, i. p. 103. pl. 6. fig. 6. [adult male]. v. p. 119. pl. 45. fig. 2. [young]. AUDUBON, pl. 40. [in the act of attacking a nest of hornets]. Philad. Museum, No. 6658.)

SP. CHARACT. — Black ; belly white ; sides of the breast, base of the primaries and tail-feathers (the two middle ones excepted) reddish orange. — *Female, young, and autumnal male* greenish-olive ; head cinereous ; beneath whitish ; sides of the breast and base of the tail-feathers, yellow.

THIS beautiful and curious bird takes up its summer residence in almost every part of the North-American

continent, being found in Canada, in the remote interior near Red river in the latitude of 49° , and throughout Louisiana and Arkansa, probably as far as Mexico ; in all of which vast countries it familiarly breeds and resides during the mild season, withdrawing early in September to tropical America, where, in the perpetual spring and summer of the larger West India islands, the species again finds means of support. At length, instigated by more powerful feelings than those of ordinary want, the male, now clad in his beautiful nuptial livery, and accompanied by his mate, seeks anew the friendly but far distant natal regions of his race. In no haste, the playful Redstart does not appear in Pennsylvania until late in April. The month of May, about the close of the first week, ushers his arrival into the states of New England ; but in Louisiana he is seen as early as the beginning of March. He is no pensioner upon the bounty of man. Though sometimes seen, on his first arrival, in the darkest part of the orchard or garden, or by the meandering brook, he seeks to elude observation, and now, the great object of his migrations having arrived, he retires with his mate to the thickest of the sylvan shade. Like his relative *Sylvias*, he is full of life and in perpetual motion. He does not, like the loitering Pewee, wait the accidental approach of his insect prey, but carrying the war amongst them, he is seen flitting from bough to bough, or at times pursuing the flying troop of winged insects from the top of the tallest tree in a zig-zag, hawk-like, descending flight, to the ground, while the clicking of his bill declares distinctly both his object and success. Then alighting on some adjoining branch, intently watching, with his head extended, he runs along upon it for an instant or two, flirting like a fan his expanded brilliant tail from side to side, and again suddenly shoots off like

an arrow in a new direction, after the fresh game he has discovered in the distance, and for which he appeared to be reconnoitring. At first the males are seen engaged in active strife, pursuing each other in wide circles through the forest. The female seeks out her prey with less action and flirting, and in her manners resembles the ordinary Sylvias.

The notes of the male, though not possessed of great compass, are highly musical, and at times sweet and agreeably varied like that of the Warblers. Many of these tones, as they are mere trills of harmony, cannot be recalled by any words. Their song on their first arrival is however nearly uniform, and greatly resembles the 'tsh 'tsh tsh tshee, tshè, tshe, tshe tshea, or 'tsh 'tsh 'tsh 'tshitshee of the summer Yellow-bird (*Sylvia æstiva*), uttered in a piercing and rather slender tone; now and then also agreeably varied with a somewhat plaintive flowing 'tshé tshé tshé, or a more agreeable 'tshit 'tshit a 'tshee, given almost in the tones of the Common Yellow-bird (*Fringilla tristis*). I have likewise heard individuals warble out a variety of sweet, and tender, trilling, rather loud and shrill notes, so superior to the ordinary lay of incubation, that the performer would scarcely be supposed the same bird. On some occasions the male also, when angry or alarmed, utters a loud and snapping chirp.

The nest of this elegant Sylvan Flycatcher is very neat and substantial; fixed occasionally near the forks of a slender hickory or beach sappling, but more generally fastened or agglutinated to the depending branches or twigs of the former; sometimes securely seated amidst the stout footstalks of the waving foliage* in the more usual manner of the delicate cradle of the Indian Tailor-

* See the vignette at the close of this article, which represents one of the nests here described.

bird,† but in the deep and cool shade of the forest, instead of the blooming bower. Security being obtained by a firm adhesion of the materials, our little brilliant and active architect is seldom solicitous about a great elevation, the height of the nest being probably rarely more than 6 to 12 feet from the ground; except in erect sapplings, when the height may be 20 to 30 feet. The external materials (of 3 nests from which I now describe) are short and rather coarse strips of Hemlock fir bark, and also stalks of small tree leaves, or tough blades of grass (*Poa compressa*) agglutinated by saliva, and thinly tied over with caterpillar's silk and the linty bark of the dog's bane (*Apocynum* Sp.); to the outside appear also attached bits of snow-white fibrous touch-wood, and films of paper-birch bark; within this first layer are more scraps of touch-wood, and bits of a white fungus (*Agaricus tomentosus*); after which, the rest of the manufacture, to the thickness of more than half an inch, consists almost wholly of slender brown strips of grape-vine bark, becoming thinner towards the ultimate lining surface, so as to appear no thicker, at length, than the finer sewing-thread. Sometimes, as in one of these nests, while making the first tenacious layer, sparing and accidental bits of thread are not refused when convenient, which must however seldom happen from the solitary and secluded habits of the species. This nest, never pensile, bears a great resemblance to that of the Pine Warbler, but the lining is neither soft nor downy. The eggs, 3 or 4, are cream white, and pretty thickly sprinkled with yellowish-brown spots of two shades, becoming more numerous towards the greater end. Both parents, but particularly the male, exhibit great concern for the safety of their nest, whether containing eggs only or young, and

† *Sylvia sutoria*; the nest as given in Forbes's History of India

on its being approached, the male will flit about within a few feet of the invader, regardless of his personal safety, and exhibiting unequivocal marks of distress. The parents also, in their solicitude and fear, keep up an incessant *'tship* when their infant brood are even distantly approached.

The length of the Redstart is $5\frac{1}{2}$ inches; alar extent about $6\frac{1}{2}$. Above, the general color is black, in places glossed with steel blue; the sides of the breast below the black, the inside of the wings, and upper half of the primaries are of a fine reddish orange, sometimes approaching scarlet. The 4 middle feathers of the tail are black, the rest orange and black towards the tips. The belly and vent white, tinged with pale orange. Legs blackish, long and slender, (better suited for walking than those of the other Flycatchers of the United States.) Bill brownish flesh-color. — The *young males* resemble the female in most respects, but differ in having a yellow band across the wings; the back is also browner, the inside of the wings is yellow. In the 3d season he acquires his perfect livery.



BONAPARTE'S SYLVAN FLYCATCHER.

(*Muscicapa Bonapartii*, AUDUBON, pl. 5. Orn. Biog. i. p. 27.)

SP. CHARACTER.—Cinereous, front and beneath dull yellow, mixed with grey, the breast sparingly spotted; tail wedge-shaped.

THIS species was discovered by Audubon in a cypress swamp, in Louisiana, on the 13th of August, 1821, which was the only time he ever met with it. Its manners appeared very similar to those of the preceding species, and it now uttered merely a plaintive 'tweet.

Size apparently a little more than 5 inches. Primaries edged with white. Bill pale. Quills dusky, their outer webs blue; 2d. primary longest. Legs yellowish flesh color. I believe, I have once seen this species in a grove of the Botanic Garden in Cambridge.

SELBY'S SYLVAN FLYCATCHER.

(*Muscicapa Selbii*, AUDUBON, pl. 9. Orn. Biog. i. p. 46.)

SP. CHARACTER.—Olive green, below and line over the eye yellow; tail forked, three lateral feathers with white spots on their inner webs.

THIS very rare species was also met with by the above author in the same swamp with the preceding, but in the early part of July, so that it is probably a summer resident in some of the neighbouring Spanish provinces.

About the size of the preceding. Wings and tail brownish black, edged with yellow, the 3d quill longest. A few spots on the cheeks. Bill almost triangular, dusky. Legs rose flesh-color.

SMALL-HEADED SYLVAN FLYCATCHER.

(*Muscicapa minuta*, WILSON, vi. p. 62. pl. 50. fig. 5. *Sylvia minuta*, BONAP.)

SP. CHARACTER.—Dark yellow-olive; beneath pale dull yellow; wings and tail dusky brown; the wing-coverts tipped with white; two lateral tail-feathers with a white spot on the inner vanes.

THIS rare species, of a doubtful genus, was first discovered by Mr. Audubon, by whom it was communicated to Wilson as well as the drawing which accompanies his description. He afterwards met with this bird himself in Pennsylvania, towards the close of April in an orchard, where with remarkable activity it was running and darting about among the opening buds and blossoms in quest of winged insects. Its notes and other habits are at present unknown. It is not uncommon; being seen in New Jersey, particularly in swamps, and may breed there, as it is found in the month of June. In the southern parts of the Union, in summer, it is probably more frequent than in the Middle States. My friend, Mr. C. Pickering, also obtained a specimen several years ago near Salem, (Massachusetts.)

Length 5 inches; alar extent $8\frac{1}{4}$. Below dirty white, stained with dull yellow towards the upper part of the breast. Bill dusky yellow, broad at the base, notched near the tip, with porrected bristles at the base. Legs dark brown; feet yellowish. Iris hazel.

BLUE-GRAY SYLVAN FLYCATCHER.

(*Muscicapa cærulea*, WILSON, ii. p. 164. pl. 18. fig. 5. *Sylvia cærulea*, LATH. AUDUBON, pl. 84. Philad. Museum, No. 6829.)

SP. CHARACTER.— Bluish-grey; beneath pale bluish-white; tail longer than the body, rounded, black; outer tail-feathers nearly white, the two succeeding tips with white. — *Female* bluish white below, without the black line over the eye and front.

BUT for the length of the tail, this would rank among the most diminutive of birds. It is a very dexterous, lively insect hunter, and keeps commonly in the tops of tall trees; its motions are rapid and incessant, appearing always in quest of its prey, darting from bough to bough

with hanging wings and elevated tail, uttering only at times a feeble song of *tsee tsee tsee*, scarcely louder than the squeak of a mouse. It arrives in the state of Pennsylvania from the south about the middle of April, and hardly passes to the north of the states of New York and Ohio. Its first visits are paid to the blooming willows, along the borders of water courses, and, besides other small insects, it now preys on the troublesome musquitoes. About the beginning of May it forms its nest, which is usually fixed among twigs, at the height of 10, or sometimes even 50 feet from the ground, near the summit of a forest tree. It is formed of slight materials, such as the scales of buds, stems and parts of fallen leaves, withered blossoms, fern* down, and the silky fibres of various plants, lined with a few horse-hairs, and coated externally with lichens. In this frail nest, the Cow Troopial sometimes deposits her egg, and leaves her offspring to the care of these affectionate and pigmy nurses. In this case, as with the Cuckoo in the nest of the Yellow Wren and that of the Red-tailed Warbler, the egg is probably conveyed by the parent, and placed in this small and slender cradle, which would not be able to sustain the weight or receive the body of the intruder. The eggs of this species, 4 or 5, are white, with a few reddish dots towards the larger end. They are said to raise two broods in the season.

This species leaves the Middle States for the south towards the close of September, wintering in tropical America, where they have been observed in Cayenne. Early in March, it arrives in Louisiana, Florida, and Georgia from its tropical winter-quarters, but none pass that season within the boundaries of the Union.

* Of the *Osmunda cinnamomea*, &c.

Length of the Blue-grey Flycatcher $4\frac{1}{2}$ inches; alar extent $6\frac{1}{2}$. Front and line over the eye black. Above, light bluish-grey, brightest on the head. Below bluish-white and pale (white, in the females.) Tail edged with blue, its coverts black. Wings brownish black, some of the secondaries next the body edged with white. Legs pale blue. Iris hazel. Bill black, broad, notched somewhat more at the tip, than the rest of this subgenus.

ICTERIA. (VIEILLOT, BONAP.)

The BILL robust, rather long, convex, curved, compressed, entire, and pointed, with divergent bristles at its base; the mandibles nearly equal, with the edges somewhat bent inwards. NOSTRILS rounded, half covered by an arched membrane. *Tongue* cartilaginous, slightly cleft at the point. — The *inner toe* unconnected with the adjoining one. First primary a little shorter than the 2d, 3d, and 4th, which are longest. — *Female* similar to the male in color.

They feed on insects and berries; are fond of concealment; alight occasionally on the ground near the thickets where they hide. Their flight is irregular, and their song quaint and varied. — The genus contains but a single species, and is peculiar to America. It is allied to *Muscicapa* as well as to the *Vireo* and Thrush.

YELLOW-BREASTED ICTERIA.

(*Icteria Viridis*, BONAP. *Pipra polyglotta*, WILSON i. p. 90. pl. 6. fig. 2. *Muscicapa viridis*. GMEL. Philad. Museum, No. 6661.)

OBSERV. The general color of this bird above is deep olive-green; the throat and breast is yellow; with the abdomen and a line encircling the eyes white.

THIS remarkable bird is another summer resident of the United States, which passes the winter in tropical America, being found in Guiana and Brazil, so that its migrations probably extend indifferently into the milder regions of both hemispheres. Even the birds essentially

tropical are still known to migrate to different distances on either side the equator, so essential and necessary is this wandering habit to almost all the feathered tribe.

The *Icteria* arrives in Pennsylvania about the first week in May, and does not appear to proceed further north and east than the states of New York or Connecticut. In the distant interior, however, near the Rocky mountains, towards the sources of the Arkansa, this bird was observed by Mr. Say. It retires to the south about the middle of August, or as soon as the only brood it raises are fitted to undertake their distant journey.

The males, as in many other migrating birds, who are not continually paired, arrive several days before the females. As soon as our bird has chosen his retreat, which is commonly in some thorny or viny thicket, where he can obtain concealment, he becomes jealous of his assumed rights, and resents the least intrusion, scolding all who approach in a variety of odd and uncouth tones, very difficult to describe or imitate, except by a whistling, in which case the bird may be made to approach, but seldom within sight. His responses on such occasions are constant and rapid, expressive of anger and anxiety; and still unseen, his voice shifts from place to place amidst the thicket, like the haunting of a fairy. Some of these notes resemble the whistling of the wings of a flying duck, at first loud and rapid, then sinking till they seem to end in single notes. A succession of other tones are now heard, some like the barking of young puppies, with a variety of hollow, guttural, uncommon sounds, frequently repeated, and terminated occasionally by something like the mewling of a cat, but hoarser; a tone, to which all our Vireos, particularly the young, have frequent recurrence. All these notes are uttered with vehemence, and with such strange and various

modulations, as to appear near or distant, like the manœuvres of ventriloquism. In mild weather, also, when the moon shines, this gabbling, with exuberance of life and emotion, is heard nearly throughout the night, as if the performer were disputing with the echoes of his own voice.

Soon after their arrival, or about the middle of May, the Icterias begin to build, fixing the nest commonly in a bramble-bush, in an interlaced thicket, a vine, or small cedar, 4 or 5 feet from the ground. The outside is usually composed of dry leaves, or thin strips of grape-vine bark, and lined with root-fibres and dry, slender blades of grass. The eggs are about 4, pale flesh-colored, spotted all over with brown or dull red. The young are hatched in the short period of 12 days; and leave the nest about the second week in June. While the female is sitting, the cries of the male are still more loud and incessant. He now braves concealment, and, at times, mounts into the air almost perpendicularly 30 or 40 feet, with his legs hanging down, and, descending as he rose, by repeated jerks, he seems to be in a paroxysm of fear and anger. Its usual mode of flying is not, however, different from that of other birds.

The food of the Icteria consists of beetles and other shelly insects; and, as the summer advances, they feed on various kinds of berries, like the Flycatchers, and seem particularly fond of whortleberries. They are frequent through the Middle States, in hedges, thickets, and near rivulets and watery situations,

The Icteria is 7 inches long, and 9 in alar extent. Above, it is of a rich deep olive-green, with the exception of the tips of the wings, and the inner vanes of the wing and tail-feathers, which are dusky brown; throat and breast of a bright yellow; the abdomen and vent white; the front dull cinereous; lores black; a line of white extends from the nostril to the upper part of the eye, which it nearly encircles; a spot of white also at the base of the lower mandible. Bill

black. Legs and feet bluish-grey, the hind claw rather the largest. — The *female* merely differs by having the black and white adjoining the eye less pure and deep.

VIREOS (or WARBLING FLYCATCHERS.)

In these the *BILL* is rather short, a little compressed, and furnished with bristles at its base ; the upper mandible curved at the extremity and strongly notched ; the lower is shorter, and recurved at tip. *NOSTRILS*, at the base of the bill, rounded. *Tongue* cartilaginous and cleft at the point. *Tarsus* longer than the middle toe. *Wings* rather acute ; the 2d or 3d primary longest. — *Female* resembling the male. The species more or less tinged with olive-green.

THESE birds, in the early part of summer, live exclusively on insects ; towards autumn they feed on small bitterish or astringent berries, the hard, indigestible parts of which are regurgitated by the bill, as with the Flycatchers. They live almost wholly in trees, rarely ever alighting on the ground. The voice is highly musical, and their song long continued. At the approach of winter they migrate to tropical climates. — They are peculiar to America. Besides their other affinities, they are related to the true Orioles, in which the young and females are also olive-green : both build pendulous nests ; have similar colored eggs ; their song is not very different ; and the young of both mew somewhat like cats.

YELLOW-THROATED VIREO.

(*Vireo flavifrons*, VIEILL. BONAP. *Muscicapa sylvicola*, WILSON, i. p. 117. pl. 7. fig. 3. Phil. Museum, No. 6661 ?)

SP. CHARACT. — Yellow-olive ; throat, breast, frontlet, and line round the eye, yellow ; belly white ; wings with 2 white bands, and, as well as the tail, blackish.

THIS species of Vireo, or Warbling Flycatcher, visits the Middle and Northern States of the Union about the beginning of May, or as soon as his insect food allows him a means of subsistence. He resides chiefly in the forest, where he hunts his tiny prey among the high branches, and as he shifts from twig to twig in the restless pursuit, he often relieves his toil with a somewhat sad and indolent note, which he repeats, with some variation, at short intervals. This song appears like *'preea 'preeá, &c.*, and it sometimes finishes with a complaining call of recognition, *'prréaigh 'prréaigh*. These syllables rise and fall in different tones as they are repeated, but though usually sweet and impressive, are delivered too slow and solemn to be generally pleasing; in other respects they considerably resemble the song of the Red-Eyed Warbling Flycatcher, in whose company it is often heard, blending its deep but languid warble, with the loud, energetic notes of the latter, and their united music, uttered during summer, even at noon day, is rendered peculiarly agreeable, as nearly all the songsters of the grove are now seeking a silent shelter from the sultry heat. In the warmest weather, the lay of this bird is indeed peculiarly strong and lively; and his usually long drawn, almost plaintive notes are now delivered in fine succession, with a peculiar echoing and highly impressive musical cadence; appearing like a romantic and tender reverie of delight. The song, now almost incessant, heard from this roving sylvan minstrel, is varied in bars nearly as follows: *preă preá preoi, preait preoit p'rríweet preai, pewai praiou, preeai preeō praoit, preeo prēăwit preeo*. When irritated, he utters a very loud and hoarse mewing, *praigh, praigh*. As soon, however, as the warm weather begins to decline, and the business of incubation is finished, about the beginning of August, this sad and

slow, but interesting musician, nearly ceases his song, a few feeble farewell notes only being heard to the first week in September.

This species, like the rest of the genus, constructs a very beautiful pendulous nest, about 3 inches deep, and $2\frac{1}{2}$ in diameter. One, which I now more particularly describe, is suspended from the forked twig of an oak, in the near neighbourhood of a dwellinghouse in the country. It is attached firmly all round the curving twigs by which it is supported; the stoutest external materials or skeleton of the fabric is formed of interlaced folds of thin strips of red cedar bark, connected very intimately by coarse threads, and small masses of the silk of spiders' nests, and of the cocoons of large moths. These threads are moistened by the glutinous saliva of the bird. Among these external materials are also blended fine blades of dry grass. The inside is thickly bedded with this last material, and fine root fibres, but the finishing layer, as if to preserve elasticity, is of rather coarse grass-stalks. Externally the nest is coated over with green lichen, attached very artfully by slender strings of caterpillars' silk, and the whole afterwards tied over by almost invisible threads of the same, so as to appear as if glued on; and the entire fabric now resembles an accidental knot of the tree grown over with moss. Another nest was fixed on the depending branches of a wild cherry tree, 40 or 50 feet from the ground. This was formed of slender bass strips wound crosswise, and held down with caterpillars' silk. The bottom was also principally floored with large fragments of white paper, the whole scattered over sparingly with bits of lichen and spiders' nests, and very delicately lined with tops of fine bent grass. The eggs, about 4, are white, with a few deep ink-colored spots of two shades, a very little larger than those on the eggs of

the Red-Eyed Vireo, and chiefly disposed towards the larger end.

The food of this species, during the summer, is insects, but towards autumn they and their young feed also on various small berries. About the middle of September, the whole move off and leave the United States, probably to winter in tropical America.

The Yellow-Throated Vireo is $5\frac{1}{2}$ inches long, and 9 in alar extent. Above yellowish-olive; throat, breast, and line over the eye lemon-yellow; vent and belly white; lesser wing-coverts, lower part of the back, and rump, ash. Wings deep brown, almost black, with 2 white bars; primaries edged with pale ash, secondaries with white; tail a little forked, of the color of the wings; the 3 exterior feathers edged on each vane with white. Legs, feet, and bill, greyish-blue. Iris hazel. The *female* and *young* have the yellow on the breast, around the eye, and the white on the wings, duller.

SOLITARY VIREO, OR FLYCATCHER.

(*Vireo solitarius*, VIEILL. BONAP. AUDUBON, pl. 28, Orn. Biog. i. p. 147. *Muscicapa solitaria*, WILSON, ii. p. 143. pl. 17. fig 6.)

SP. CHARACT.—Dusky olive; head bluish-grey; line from the upper mandible round the eye whitish; the breast pale cinereous; the belly white, yellow on each side; wings with 2 white bands, and with the tail dusky brown.

THIS is one of the rarest species of the genus, and from Georgia to Pennsylvania seems only as a straggler or accidental visitor. One was obtained by Wilson in Mr. Bartram's woods in the month of October. According to Audubon, it inhabits and breeds occasionally in the cane-brakes, and vast alluvial lands of Louisiana near the banks of the Mississippi. The nest, as usual, is partly pensive from the forked twigs of a low bush. It is slightly put together, coated externally with grey lichens,

and lined with the hair of wild animals. The eggs, 4 or 5, are white, tinged with flesh-color, with brownish red spots at the larger end.

It possesses all the unsuspicious habits of the genus, allowing a near approach without alarm, and is at no period known to possess any song. It seldom rises beyond the tops of the canes or low bushes, amidst which it is commonly seen hopping in quest of its subsistence, which consists of insects and berries. Its flight is generally tremulous and agitated.

This uncommon species is 5 inches long, and 8 in alar extent. The cheeks, upper part of the head, and neck, dark bluish-grey; breast, pale cinereous, inclining to reddish-grey on the throat; flanks and sides of the breast yellow; back and tail-coverts dusky-olive; the wings dusky-brown, with 2 white bands; primaries and tail-feathers bordered with light green; tail emarginate, nearly black; a line of white from the nostrils to the eye, which it also encircles. Belly and vent white. Bill very short, and nearly as broad as in the true Flycatchers. Upper mandible black; lower pale bluish-grey; legs and feet, bluish-grey. Irids hazel. — *Female* with the head dusky-olive, and the throat greenish.

WHITE-EYED VIREO, OR FLYCATCHER.

(*Vireo noveboracensis*, BONAP. AUDUBON, pl. 63. Ornith. Biog. i. p. 328. *Muscicapa cantatrix*, WILSON, ii. p. 166. pl. 18. fig. 6. Phil. Museum, No. 6778.)

SP. CHARACTER. — Yellow-olive; beneath white, sides yellow; line round the eye, and spot near the nostrils yellow; wings with 2 pale yellow bands, and with the tail blackish; irids white.

THIS interesting little bird appears to be a constant resident within the limits of the United States; as, on the 12th of January, I saw them in great numbers near Charleston, S. C. feeding on the wax-myrtle berries, in company with the Yellow-Rumped Sylviæ. At this season they were silent, but very familiar, descending from the

bushes when whistled too, and peeping cautiously, came down close to me, looking about with complacent curiosity, as if unconscious of any danger. In the last week of February, Wilson already heard them singing in the southern parts of Georgia, and throughout that month to March, I saw them in the swampy thickets nearly every day, so that they undoubtedly reside and pass the winter in the maritime parts of the Southern States. The arrival of this little unsuspecting warbler in Pennsylvania and New England is usually about the middle of April or earlier. On the 12th of March I first heard his voice in the low thickets of West Florida. His ditty was now simply — *ss't* (with a whistle) *wá wítte wítte wē-wá*, (the 1st part very quick.) As late as the first week in May, I observed a few stragglers in this vicinity peeping through the bushes; and in the latter end of the month a pair had taken up their abode in the thickets of Fresh Pond, so that those which first arrive leave us and proceed further to the north. On the 22d of June I heard the male in full song, near his nest, in our neighbourhood, where incubation was going on. His warble was very pleasing, though somewhat monotonous and whimsical. This affectionate note, often repeated, near to his faithful mate while confined to her nest, was like *'tshíppewee-wá-say 'tshíppewee-wée-was-say*, sweetly whistled, and with a greater compass of voice and loudness, than might have been expected from the size of the little vocalist. The song is sometimes changed two or three times in the course of twenty minutes; and I have heard the following phrases; *'att tshíppewat 'wurr, tshíppewat 'wurr*; at another time, *'tshíppeway 'tshe ö et 'tsherr*. On another visit the little performer had changed his song to *'pip té waigh ä tshewa*, with a guttural trill, as usual, at the last syllable. He soon however varied his lay to *'whíp te woī wee*,

the last syllable but one considerably lengthened and clearly whistled. Such were the captious variations of this little quaint and peculiarly earnest musician, whose notes are probably almost continually varied. On the 6th of October, I still heard one of these wandering little minstrels, who, at intervals, had for several weeks visited the garden, probably in quest of berries. His short, quaint, and more guttural song, was now *atshěe-vaït*, (probably the attempt of a young bird.) As late as the 20th of October the White-Eyed Vireo still lingered around Cambridge, and, on the margin of a pond, surrounded by weeds and willows, he was actively employed in gleaning up insects and their larvæ : and now, with a feebler tone of voice, warbled with uncommon sweetness, wholly different from his usual strain, sounding something like the sweet whisperings of the Song Sparrow, at the present season, and was perhaps an attempt at mimickry. Occasionally, also, he blended in his harsher, scolding, or querulous mewing call. From this journal, it must be evident, that the present species retires no further for winter quarters than the southern parts of the United States, where many also breed, as would appear, from the concomitant circumstance of their music ; nor is it at all improbable that the species may likewise inhabit the maritime parts of Mexico, as well as Louisiana.

This species, like the rest, builds commonly a pensile nest, suspended by the upper edge of the two sides on the circular bend, often, of the smilax or green-briar vine. It is composed of slender twigs, grassy fibres, pieces of paper, sometimes newspapers, or fragments of hornets' nests ; the interior is lined with slender root fibres. The whole fabric appears to me, as far as my opportunities have extended, like the Cat-Bird's nest in miniature. The eggs are 4 or 5, white, marked at the larger end

with a few small spots of blackish brown. In the Middle States they often raise 2 broods in the season, generally make choice of thorny thickets for their nest, and show much concern when it is approached, descending within a few feet of the intruder, looking down, and hoarsely mewling and scolding with great earnestness. This petulant display of irritability is also continued when the brood are approached, though as large and as active as their vigilant and vociferous parents. In the Middle States this is a common species, but in Massachusetts rather rare. Its food, like the rest of the Vireos, is insects and various kinds of berries; for the former of which it hunts with great agility, attention, and industry.

The White-Eye is $5\frac{1}{4}$ inches long, and 7 in extent; wings and tail dusky brown, edged with olive-green, the latter forked. Bill, legs, and feet light bluish-grey; the sides of the neck incline to greyish-ash. *Female* and *young* scarcely distinguishable in plumage from the male.

WARBLING VIREO.

(*Vireo gilvus*, BONAP. *Muscicapa melodia*, WILSON, v. p. 85. pl. 42.
fig. 2. *M. gilva*, VIEILL.)

SP. CHARACT.—Pale green olive; head and neck dilute ash-color; beneath, and line over the eye, whitish; wings pale dusky brown, without bands; irids brown; 1st and 5th primaries about equal; tail extending more than an inch beyond the closed wings.

THIS sweetest and most constant warbler of the forest, extending his northern migrations probably to the confines of Canada, arrives from tropical America in Pennsylvania about the middle of April, and reaches this part of New England early in May. His livery, like that of the Nightingale, is plain and unadorned; but the sweet melody of his voice, surpassing, as far as nature usually surpasses art, the tenderest airs of the flute,

poured out often from the rising dawn of day to the approach of evening, and vigorous even during the sultry heat of noon, when most other birds are silent, gives additional interest to this little vocalist. While chanting forth his easy, flowing, tender airs, apparently without effort, so contrasted with the interrupted emphatical song of the Red-Eye, he is gliding along the thick and leafy branches of our majestic Elms, and tallest trees, busied in quest of his restless insect prey. With us, as in Pennsylvania, the species is almost wholly confined to our villages, and even cities. They are rarely ever observed in the woods; but from the tall trees which decorate the streets and lanes, the almost invisible musician, secured from the enemies of the forest, is heard to cheer the house and cottage with his untiring song. As late as the 2d of October I still distinguished his tuneful voice, from amidst the yellow fading leaves of the linden, near which he had passed away the summer. The approaching dissolution of those delightful connexions, which had been cemented by affection, and the cheerless stillness of autumn, still called up a feeble and plaintive reverie. Some days after this late period, warmed by the mild rays of the morning sun, I heard, as it were, faintly warbled, a parting whisper; and about the middle of this month, our vocal woods and fields were once more left in dreary silence.

“ And through the sadden'd grove [now] scarce is heard
 One dying strain, to cheer the woodman's toil.
 While congregated Thrushes, Linnets, Larks,
 And each wild throat, whose artless strains so late
 Swell'd all the music of the swarming shades,
 Robb'd of their tuneful [songs], now shivering sit
 On the dead tree, a dull, despondent flock;
 With nought save [plaintive] discord in their note.”

* * * * *

The Warbling Vireo is indeed allied to the genus of the Nightingale (*Sylvia*), whose song, from the description of Mr. White in his Natural History of Selbourne, bears considerable resemblance to that of the Black-capt Flycatcher (*Muscicapa albicollis* of Temminck.) When offended or irritated, our bird utters an angry 'tshay' tshay, like the Cat-Bird and the other Vireos, and sometimes makes a loud snapping with his bill. The nest of the Warbling Vireo is generally pendulous, and ambitiously and securely suspended at great elevations. In our Elms I have seen one of these airy cradles at the very summit of one of the most gigantic, more than 100 feet from the ground. At other times they are not more than 50 to 70 feet high. The only nest I have been able to examine was made externally of flat and dry sedge-grass blades, for which, as I have observed, is occasionally substituted strings of bass. These dry blades and strips are confined and tied into the usual circular form by caterpillars' silk, blended with bits of wool, silk-weed lint, and an accidental and sparing mixture of vernal-grass tops and old apple blossoms. It was then very neatly lined with the small flat blades of the meadow grass, called *Poa compressa*. The eggs, 4, on which the bird was already sitting, were pure white, with a few small blackish purple spots of two sizes, and some confluent, straggling, hair-like lines, disposed chiefly around the greater end. The size of these eggs is very perceptibly smaller than those of the Red-Eyed Vireo, in one of whose nests I have seen two eggs of this species deposited, as well as one laid by the Cow Troopial! an accidental parasitic practice, urged probably by the neglect of not providing a nest for the immediate occasion.

The length of this bird is about 5 inches. Above pale olive-green, much mixed with ash on the neck and shoulders. Line over the

eye and lower parts whitish ; near the breast and sides under the wings tinged with pale-greenish yellow. Wings greyish-brown, edged with pale olive-green, inclining to grey. The tail also similarly edged, and slightly forked. Legs, feet, and bill above, lead-color ; the lower mandible pale flesh-color. Iris dark hazel. The sexes nearly alike.



RED-EYED VIREO, OR FLYCATCHER.

(*Vireo olivaceus*, BONAP. *Muscapa olivacea*, LIN. WILSON, ii. p. 55. pl. 12. fig. 3. Philad. Museum, No. 6675.)

SP. CHARACT. — Yellow-olive ; crown ash, with a dark lateral line ; line over the eye, and all beneath, whitish ; wings without bands ; irids red ; 1st primary much longer than the 5th. — *Young* with the eye dark hazel.

THIS common and indefatigable songster appears to inhabit every part of the American continent from Labrador to the large tropical islands of Jamaica and St. Domingo ; they are likewise resident in the mild table land of Mexico.* Those who pass the summer with us, however, migrate to the warmer regions at the commencement of winter, as none are found at that season within the limits of the United States. The Red-Eyed

* Bullock's memoirs on the birds of Mexico.

Vireo arrives in Pennsylvania late in April, and in New England about the beginning of May. It inhabits the shady forests or tall trees near gardens and the suburbs of villages, where its loud, lively, and energetic song is often continued, with little intermission, for several hours at a time, as it darts and pries among the thick foliage in quest of insects and small caterpillars. From its first arrival, until August, it is the most distinguishable warbler of the forest, and when almost all the other birds have become mute, its notes are still heard with unabated vigor. Even to the 5th of October, still enlivened by the feeble rays of the sun, he faintly recalls his song, and plaintively tunes a farewell to his native woods. His summer notes are uttered in short, emphatical bars, of 2 or 3 syllables, and have something in them like the simple lay of the Thrush or American Robbin when he first earnestly and slowly commences his song. He often makes use, in fact, of the same expressions, but his tones are more monotonous as well as mellow and melodious, like the rest of the Vireos. In moist and dark summer weather, his voice seems to be one continued, untiring warble of exquisite sweetness; and in the most populous and noisy streets of Boston, his shrill and tender lay is commonly heard from the tall Elms; and as the bustle of carts and carriages attempt to drown his voice, he elevates his pipe with more vigor and earnestness, as if determined to be heard in spite of every discord. The call of "*Whip-Tom-kelly*," attributed to this species by Sloane and even Wilson, I have never heard, and, common as the species is throughout the Union, the most lively or accidental fit of imagination never yet, in this country, conceived of such an association of sounds. I have already remarked, indeed, that this singular call is, in fact, sometimes uttered by the Tufted Titmouse.

When our Vireo sings slow enough to be distinctly heard, the following sweetly warbled phrases, variously transposed and tuned, may often be caught by the attentive listener: 'tshoöe *pewēē* *peeaī* *mūsik* 'du 'dū 'du, 'tshoöve 'hère 'hère, *hear hère*, 'k'ing 'rītshard, 'p'shēgru 'tshévū, 'tsheevoo 'tshūvee *peeaīt* 'pèroī. The whole delivered almost without any sensible interval, with earnest animation, in a pathetic, tender, and pleasing strain, well calculated to produce calm and thoughtful reflection in the sensitive mind. Yet while this heavenly reverie strikes on the human ear with such peculiar effect, the humble musician himself seems but little concerned; for all the while, perhaps, that this flowing chorus enchants the hearer, he is casually hopping from spray to spray in quest of his active or crawling prey, and if a cessation occurs in his almost untiring lay, it is occasioned by the caterpillar or fly he has just fortunately captured. So unaffected are these delightful efforts of instinct, and so unconscious is the performer, apparently, of this pleasing faculty bestowed upon him by nature, that he may truly be considered, as a messenger of harmony to man *alone*, appointed by the fiat of Creative power. Wantonly to destroy these delightful aids to sentimental happiness ought therefore to be viewed, not only as an act of barbarity, but almost as a sacrilege!

The Red-Eye, in the month of May, builds a small, neat, pensile nest, suspended between the forked and depending twigs of some young and slender forest tree.* It is firmly attached by the whole of the 2 upper edges, and fixed at a height of from 4 or 5 to 20 feet from the ground. It is commenced by narrow loops of tenaceous materials passed from twig to twig, which are successively increas-

* These nests are chiefly made in the maple, beech, birch, oak, hornbeam, and tree cornel,) *Cornus florida*, L.)

ed in width to the size intended ; the front is then carried upwards in the same manner to complete the circular frame, the whole being sufficiently agglutinated into a thin pouch, to which is attached all the other necessary parts of the fabric. The external circular layers or loops consist of thin strips of grape-vine, paper-birch, or red cedar bark and bass, agglutinated together. These coarse materials are then well tied over each other, outside with slender strings of bass, and others of caterpillars' webs, or the silk of cocoons of the larger moths, all rendered more or less manageable by the assistance of the adhesive saliva. Refractory fragments of rotten wood, coiled ends of white-birch bark, and spiders' nests commonly remain outside, as if for ornament ; but some of them are often only the extra remains of materials or their ends, parts of which are interwoven or filled into the nest. At other times the outside appears wrought evenly, and without any attempt at fanciful decoration. The inside of the nest is closely and elegantly lined with fibrous grass, minute wiry leaf-stalks, and sometimes very slender hemlock fir twigs, but chiefly with fine, dry pine leaves, and almost similar minute strips or strings of grape-vine bark. These nests, like little circular baskets, are put together with so much neatness and firmness, that they sometimes survive the action of the weather for a year ; and Wilson knew an instance where the nest of the Yellow-bird was built in the cavity of one which had survived the season. When thus left, they are sometimes also taken possession of very economically by the mice, who make use of other nests likewise for the same purpose. The eggs are about 3 or 4, white ; with a few distinct small spots of blackish brown, of 2 shades, disposed at the greater end. They often raise 2 broods in the season.

The Red-Eyed Vireo is one of the most favorite of all the adopted nurses of the Cow-bird, and the remarkable gentleness of its disposition and watchful affection for the safety of its young, or of the foundling confided to its care, amply justifies this selection of a foster parent. The male, indeed, defends his nest, while his mate is sitting, with as much spirit as the king-bird, driving away every intruder, and complaining in a hoarse mew-ing tone when approached by any inquisitive observer. By accident, the eggs were destroyed in a nest of this species in the Botanic Garden, in a sugar-maple about 20 feet from the ground. At this time no complaints were heard, and the male sang all day as cheerful as before. In a few days, unwilling to leave the neighbourhood, they had made a second nest in a beech at the opposite side of the same premises; but now the male drove away every feathered intruder with the greatest temerity. The young of this species are often hatched in about 13 days, or 24 hours later than the parasitic Troopial; but for want of room the smaller young are usually stifled or neglected. I have, however, seen in one nest a surviving bird of *each kind* in a fair way for being reared; yet, by a singular infatuation, the supposititious bird appeared by far the most assiduously attended, and in this case the real young of the species seemed to be treated as puny foundlings.

In the month of August, the young fed greedily on the small berries of the bitter cornel, and astringent *Viburnum dentatum*, as well as other kinds. One of these inexperienced birds hopped close round me in an adjoining bush, without any fearful apprehension; and, as late as the 26th of October, two young birds of the Red-Eye were still lingering in this vicinity, and busily engaged in gleaning subsistence. Eager after flies, about the 25th of August, a young bird with hazel instead of red

eyes, entered a chamber in the neighbourhood, and became my inmate. I clipped his wing, and left him at large in a room; he soon became very gentle, took grasshoppers and flies out of my hand, eat *Viburnum* berries with a good appetite, and, in short, seemed pleased with his quarters. A fly could not stir but it was instantly caught; his only difficulty was with a lame King-bird who occupied the same apartment. The king appeared very jealous of this little harmless companion; snapped his bill at him when he approached, and begrudged him his subsistence, when he perceived that he fed on the same food with himself. At length, he would come to me for provision, and for protection from his tyrannical associate. But the career of my interesting and lively companion was soon terminated by death, occasioned, in all probability, by a diarrhœa, produced in consequence of swallowing a small lock of hair with his food which was found in his stomach. This bird, very different from a *Sylvia autumnalis*, which I afterwards had in my possession, regurgitated by the bill, like the King-bird, pellets of the indigestible parts of his food, such as the legs and wings of grasshoppers and flies, and the skins and seeds of berries. Unlike the King-bird, in one particular, however, he folded his head under his wing when at rest, and reposed with great soundness, whereas for eight months I was never able to detect the former asleep.

This species is about 6 inches long. The crown deep ash, bordered on each side by a line of blackish, below which is a line of white passing a little beyond the eye; the bill rather long, dusky above, and pale below. Inner webs of the wings and tail dusky, the outer, like the rest of the upper parts, yellow olive, the folded wings extend within about $\frac{1}{2}$ an inch of the tip of the tail. Beneath white, tinged on the breast and sides with pale yellow. Tail slightly forked. Legs and feet light bluish-grey. Iris of the adult red. In the female the colors are a little more obscure.

VIGOR'S VIREO.

(*Vireo Vigorsii*. AUDUBON, pl. 30. male. Orn. Biog. i. p. 153.)

SP. CHARACT. — Dusky olive, throat greyish, breast ochre yellow; belly nearly white; wings and tail blackish, the former with 2 white bands; some of the lateral tail-feathers white on their inner webs.

AN individual of this very rare bird was shot by its discoverer many years ago on an island in Perkiomen creek, in Pennsylvania, and has never since been seen by any naturalist.

Some part of the throat and breast pale lemon yellow. Rump greenish. Wings edged with dusky brown; 2d primary longest. Bill dusky. Feet and legs yellowish flesh color. Iris dark brown. Tail a little forked.

NOTE. In the text, vol. i. p. 153, this bird is described as a *Sylvia*.

THE THRUSHES. (TURDUS. *Lin.*)

In these birds the BILL is of moderate dimensions with cutting edges, and compressed and curved towards the point; the upper mandible is generally notched towards the extremity, the lower roundish; there are also a few scattered bristles near the opening of the bill. NOSTRILS basal, lateral, rounded, and half closed by a naked membrane. *Tongue* fringed and notched at tip. — *Feet* rather stout, the tarsus longer than the middle toe, which is attached at base to the outer one. *Wings* short or moderate; the first primary short, or of moderate length; 3d, 4th, or 5th primaries longest. Scapulars hardly longer than the secondaries. — The *female* and *young* differ little from the male. The young, however, are more spotted. The moult is annual.

They generally live in pairs only during the period of reproduction; both sexes sometimes assist in incubation, and the male is often observed to feed his mate while thus engaged. They migrate in large companies, or remain sedentary in the warmer parts of Europe, and the milder states of the American union. They live on

insects, worms, and berries, swallow earth and gravel to assist digestion, but disgorge the kernels and hard seeds of fruit, and are also easily fed on bread and other farinaceous food. They excel in song, and are the most powerful of feathered musicians. Their flesh is also esteemed (but their lives and labors to the husbandman are infinitely more valuable). Every country and climate possesses species of this interesting genus.

Subgenus. — ORPHEUS.

With the bill elongated and considerably curved throughout. In these the voice is powerful and eminently melodious, and they display usually a talent for mimicry. By the uniformity of their haunts, they live apparently paired for several seasons, and evince more sagacity and intelligence than any other musical birds hitherto known.



THE MOCKING BIRD.

(*Turdus polyglottus*, LIN. WILSON, ii. p. 13. pl. 10. fig. 1. AUDUBON, pl. 21. [a spirited group and nest attacked by a Rattle Snake.] *Orpheus polyglottus*, SWAINSON. Philad. Museum, No. 5288.)

SP. CHARACT.—Cinereous; beneath whitish; tips of the wing-coverts, primaries at base, and lateral tail-feathers, white; tail cuneiform.

THIS unrivalled Orpheus of the forest, and natural wonder of America, inhabits the whole continent, from the state of Rhode Island to the larger isles of the West Indies, and continuing through the equatorial regions, is found in the southern hemisphere as far as Brazil. Nor is it at all confined to the Eastern or Atlantic states. It also exists in the wild territory of Arkansa more than a thousand miles from the mouth of Red River. It breeds

at the distant western sources of the Platte, near the very base of the Rocky Mountains ; * and Mr. Bullock saw it in the table land of Mexico. The Mocking Bird rears its young, and consequently displays its wonderful powers, in all the intermediate regions of its residence in the United States to the peninsula of Florida. † It appears, in short, permanently to inhabit the milder regions of the western world in either hemisphere ; ‡ and the individuals bred north of the Delaware, on this side the equator, are all that ever migrate from their summer residence. A still more partial migration takes place also, probably, from west to east, in quest of the food and shelter which the maritime districts afford. Though now so uncommon in that vicinity, 50 or 60 years ago, according to Bartram, they even wintered near Philadelphia, and made a temporary abode in the mantling ivy of his venerable mansion. In summer, a few proceed as far as Rhode Island, following the mild temperature of the sea-coast ; but further north, they are, I believe, nearly unknown, except rarely and occasionally in Massachusetts. With the advance of the season, also, in the country which it inhabits, varies the time of incubation. Early in April they begin to build in the maritime parts of Georgia, but not before the middle of May in Pennsylvania.

In the winter season they chiefly subsist on berries, particularly those of the Virginia juniper (called red cedar), wax myrtle, holly, smilax, sumach, sour-gum, and a variety of others, which furnish them, and many other birds, with a plentiful repast. Insects, worms, grasshoppers, and larvæ, are the food on which they principally subsist, when so eminently vocal, and engaged in

* Mr. Say.

† Mr. Ware.

‡ Mr Litchfield informs me, that the song of the Mocking-Bird is commonly heard in Venezuela, where of course it breeds and permanently resides.

the task of rearing their young. In the Southern States, where they are seldom molested, with ready sagacity they seem to court the society of man, and fearlessly hop around the roof of the house, or fly before the planter's door. When a dwelling is first settled in the wilderness, this bird is not seen sometimes in the vicinity for the first year; but, at length, he pays his welcome visit to the new comer, gratified with the little advantages he discovers around him, and seeking out also the favor and fortuitous protection of human society. He becomes henceforth familiar, and only quarrels with the cat and dog, whose approach he instinctively dreads near his nest, and never ceases his complaints and attacks until they retreat from his sight.

On the 26th of February I first heard the Mocking-Bird, that season, in one of the prairies of Alabama. He began by imitating the Carolina Woodpecker, *tshooai tshooai*, 'tshow 'tshow 'tshow; then, in the same breath, the *sweetoot sweetoot* of the Carolina Wren; by and by, *woolit woolit 'tú 'tú* of the Cardinal bird, and the *pěto pěto* of the Tufted Titmouse, with connecting tones of his own, uttered with an expression so refined and masterly, as if he aimed, by this display of his own powers, to make those inferior vocalists ashamed of their own song. It was truly astonishing, what a tender sweetness he contrived to blend amidst notes so harsh and dissonant as those of the Woodpecker, which ever and anon, made, now, the chorus of his varied and fantastic song. In the lower parts of Georgia, by the beginning of March, they are already heard vying with each other, and with the Brown Thrush, rendering the new-clad forest vocal with the strains of their powerful melody.

Like the Ferruginous Thrush, to which he is so nearly related, the Mocking-Bird chooses a solitary briar-bush

or a thicket for his nest ; sometimes an orchard tree contiguous to the house is selected for the purpose, at little more than the height of a man from the ground. The composition of this cradle of his species is, generally, an external mass of dry twigs, leaves, and grass, blended with bits of decayed wood, and then surmounted with a thick layer or lining of root-fibres of a light brown color. The eggs are about 4 or 5, pale green, with blotches of brown scattered nearly all over. The female sits 14 days, usually producing two broods in a season, and is often assiduously fed, while so engaged, by the attentive male. She is jealous of her nest, and complains with a mournful note, their usual low call, when her eggs have been touched, but does not readily abandon the spot she has once chosen.* None of the domestic animals, or man himself, but particularly the cat and dog, can approach, during the period of incubation, without receiving an attack from these affectionate guardians of their brood. Their most insidious and deadly enemies, however, are reptiles, particularly the black snake, who spares neither the eggs nor young. As soon, as his fatal approach is discovered, by the male, he darts upon him without hesitation, eludes his bites, and striking him about the head, and particularly the eyes, where most vulnerable, he soon succeeds in causing him to retreat, and by redoubling his blows, in spite of all pretended fascination, the wily monster often falls a victim to his temerity ; and the heroic bird, leaving his enemy dead on the field he provoked, mounts on the bush above his affectionate mate and brood, and in token of victory celebrates his loudest song.

The Mocking-bird, like the Nightingale, is destitute of brilliant plumage, but his form is beautiful, deli-

* AUDUBON, Orn. Biog. vol. i. p. 111.

cate, and symmetrical in its proportions. His motions are easy, rapid, and graceful, perpetually animated with a playful caprice, and a look that appears full of shrewdness and intelligence. He listens with silent attention to each passing sound, treasures up lessons from any thing vocal, and is capable of imitating with exactness, both in measure and accent, the notes of all the feathered creation. And, however wild and discordant the tones and calls may be, he contrives with an Orphean talent, peculiarly his own, to infuse into them that sweetness of expression, and harmonious modulation which characterizes this inimitable and wonderful composer. With the dawn of morning, while yet the sun lingers below the blushing horizon, our sublime songster, in his native wilds, mounted on the topmost branch of a tall bush or tree in the forest, pours out his admirable song, which, amidst the multitude of notes from all the warbling host, still rises præëminent, so that his solo is heard alone, and all the rest of the musical choir appear employed in mere accompaniments to this grand actor in the sublime opera of nature. Nor is his talent confined to imitation; his native notes are also bold, full, and perpetually varied, consisting of short expressions of a few variable syllables, interspersed with imitations, and uttered with great emphasis and volubility, sometimes for half an hour at a time, with undiminished ardor. These native strains bear a considerable resemblance to those of the Brown Thrush, to whom he is so nearly related in form, habits, and manners; but, like rude from cultivated genius, his notes are distinguished by the rapidity of their delivery, their variety, sweetness, and energy. As if conscious of his unrivalled powers of song, and animated by the harmony of his own voice, his music is, as it were, accompanied by chromatic dancing and expressive gestures;

he spreads and closes his light and fanning wings, expands his silvered tail, and, with buoyant gayety and enthusiastic ecstasy, he sweeps around, and mounts and descends into the air from his lofty spray, as his song swells to loudness, or dies away in sinking whispers. While thus engaged, so various is his talent, that it might be supposed a trial of skill from all the assembled birds of the country; and so perfect are his imitations, that even the sportsman is at times deceived, and sent in quest of birds that have no existence around. The feathered tribes themselves are decoyed by the fancied call of their mates; or dive with fear into the close thicket, at the well-feigned scream of the hawk.

Soon reconciled to the usurping fancy of man, the Mocking-bird often becomes familiar with his master; playfully attacks him through the bars of his cage, or at large in a room; restless and capricious, he seems to try every expedient of a lively imagination, that may conduce to his amusement. Nothing escapes his discerning and intelligent eye or faithful ear. He whistles perhaps for the dog, who, deceived, runs to meet his master; the cries of the chicken in distress bring out the clucking mother to the protection of her brood. — The barking of the dog, the piteous wailing of the puppy, the mewing of the cat, the action of a saw, or the creaking of a wheelbarrow, quickly follow with exactness. He repeats a tune of considerable length; imitates the warbling of the Canary, the lisping of the Indigo bird, and the mellow whistle of the Cardinal, in a manner so superior to the originals, that mortified and astonished, they withdraw from his presence, or listen in silence, as he continues to triumph by renewing his efforts.

In the cage also, nearly as in the woods, he is full of life and action, while engaged in song; throwing him-

self round with inspiring animation, and, as it were, moving in time to the melody of his own accents. Even the hours of night, which consign nearly all other birds to rest and silence, like the Nightingale, he oft employs in song, serenading the houseless hunter and silent cottager to repose, as the rising moon illumines the darkness of the shadowy scene. His capricious fondness for contrast and perpetual variety appears to deteriorate his powers. His lofty imitations of the musical Brown Thrush are perhaps interrupted by the crowing of the cock, or the barking of the dog ; the plaintive warblings of the Blue-bird are then blended with the wild scream and chatter of the Swallow, or the cackling of the hen ; amid the simple lay of the native Robin, we are surprised with the vociferations of the Whip-poor-will ; while the notes of the garrulous Jay, Kildeer, Woodpecker, Wren, piping Baltimore, and many others succeed, with such an appearance of reality, that we almost imagine ourselves in the presence of the originals, and can scarcely realize the fact, that the whole of this singular concert is the effort of a single bird. Indeed, it is impossible to listen to these Orphean strains, when delivered by a superior songster in his native woods, without being deeply affected, and almost riveted to the spot, by the complicated feelings of wonder and delight, in which, from the graceful and sympathetic action, as well as enchanting voice of the performer, the eye is no less gratified than the ear. It is, however, painful to reflect, that these extraordinary powers of nature, exercised with so much generous freedom in a state of confinement, are not calculated for long endurance, and after this most wonderful and interesting prisoner has survived for 6 or 7 years, blindness often terminates his gay career ; and thus shut out from the cheering light, the solace of his

lonely but active existence, he now, after a time, droops in silent sadness and dies.

Successful attempts have been made to breed this bird in confinement by allowing them retirement and a sufficiency of room. Those which have been taken in trap-cages are accounted the best singers, as they come from the school of nature, and are taught their own wild wood notes. The prices of these invaluable songsters are as variable as their acquired or peculiar powers, and are from 5 to 50 dollars; even a hundred has been refused for an extraordinary individual. The food of the young is thickened meal and water, or meal and milk, mixed occasionally with tender fresh meat, minced fine. Animal food, almost alone, finely divided and soaked in milk, is at first the only nutritive food suited for raising the tender nurslings. Young and old require berries of various kinds, from time to time, such as cherries, strawberries, whortleberries, &c., and, in short, any kind of wild fruits of which they are fond, if not given too freely, are useful. A few grasshoppers, beetles, or any insects conveniently to be had, as well as gravel, are also necessary; and spiders will often revive them when drooping or sick.

The young male bird, which must be selected as a singer, may be distinguished by the breadth and purity of the white on the wings. This white spot, in a full grown male, spreads over the whole 9 primaries, down to, and considerably below their coverts, which are also white, sometimes slightly tipped with brown. The white of the primaries, also, extends to the same distance on both vanes of the feathers. In the female, the white is less clear, spreads only over 7 or 8 of the primaries, does not descend so far, and extends considerably farther down on the *broad* than on the *narrow* side of the feathers. The black is also more inclined to brown.

The length of the Mocking-bird is $9\frac{1}{2}$ inches, and 13 in alar extent. Individuals of the first brood in the season are larger and more robust than those produced later. Above ash-color, at length inclined to brown. The wings and tail nearly black, the first and second rows of coverts tipped with white; the primary coverts in some males are wholly white, in others tinged with brown. The 3 first primaries are white from their roots as far as their coverts; the white on the next 6 extends from an inch to $1\frac{3}{4}$ farther down, and equally on both sides of the feather. The tail is wedge-shaped, the 2 outer feathers white, the rest, except the middle ones, tipped with white. Chin white; the remaining parts below, a brownish white, and clearer in wild than domesticated birds. Iris inclining to golden, but lighter. Bill, legs, and feet black; the base of the lower mandible whitish. The difference in the female is already given. The breast of the young is spotted like that of the Thrush.

FERRUGINOUS THRUSH, OR THRASHER.

(*Turdus rufus*, LIN. WILSON. Am. Orn. ii. p. 83. pl. 14. fig. 1. Phil. Museum, No. 5285.)

SP. CHRACT. Reddish-brown; beneath whitish, spotted with black; tail very long and rounded; wings with 2 whitish bands; the bill long, and without notch.

THIS large and well known songster, inferior to none but the Mocking-bird in musical talent, is found in every part of this continent, from Canada to the shores of the Mexican Gulph, breeding in all the intermediate space, though more abundantly towards the north. They retire to the south, early in October, in the states north of the Carolinas, and probably extend their migrations at this season through the warmer regions towards the borders of the tropics.

From the 15th of April to early in May they begin to revisit the Middle and Northern States, keeping pace, in some measure, with the progress of vegetation and the

comparative advancement of the season. They appear always to come in pairs, so that their mutual attachment is probably more durable than the season of incubation. Stationed on the top of some tall orchard or forest tree, the male, gay and animated, salutes the morn of his arrival with his loud and charming song. His voice, somewhat resembling that of the Thrush of Europe, but far more varied and powerful, rises preëminent amidst all the vocal choir of the forest. His music has the full charm of innate originality; he takes no delight in mimicry, and has therefore no title to the name of Mocking-bird.* On his first appearance, he falters in his song, like the Nightingale, but when his mate commences her cares and labors, his notes attain all their vigor and variety. The young birds, even of the first season, in a state of solitary domestication, without the aid of the parent's voice, already whisper forth in harmonious reverie the pathetic and sweet warble, instinctive to the species. In the month of May, while the blooming orchards perfume and decorate the landscape, the enchanting voice of the Thrasher, in his affectionate lay, seems to give grateful utterance for the bounty and teeming profusion of nature, and falls in pleasing unison with the harmony and beauty of the season.

From the beginning to the middle of May the Thrasher is engaged in building his nest, selecting for this purpose usually a low, thick bush, in some retired thicket or swamp, a few feet from the earth, and sometimes even on the ground, in some sheltered tussuck, or near the root of a bush. It has a general resemblance to the nest of the Cat-bird; outwardly being made of small interlacing twigs, then layers of dry oak or beech leaves, either whole

* He is called in the Southern States, the French Mocking-bird.

or dissected. To these materials usually succeeds a stratum of strips of grape-vine or red cedar bark, and with them I have once seen a piece of old tape, collected probably from the vicinity of some cottage; over the whole is piled a mass of coarse root-fibres, often of a dark color, and the finishing lining is made of a finer layer of the same. The eggs, never exceeding 5, are thickly and very elegantly sprinkled all over with minute spots of palish brown, on a greenish white ground. In the Middle States they have probably two broods in the season; here seldom more than one. They display the most ardent affection for their young; attacking snakes, dogs, and cats in their defence. One of the parents, usually the male, seems almost continually occupied, in guarding against any dangerous intruder. The cat is attacked commonly at a considerable distance from the young, and the woods echo with his plaintive *yé-ōw, yé-ōw*, and the low, guttural, angry *'tsh 'tsh 'tsh 'tsh*. The enemy is thus pursued off the field, commonly with success, as guilty grimalkin appears to understand the threatening gestures and complaints with which she is so incessantly assailed. Towards their more insidious enemies of the human species, when approaching the helpless or unfledged young, every art is displayed; threats, entreaties, and reproaches, the most pathetic and powerful, are tried in no equivocal strain; they dart at the ravisher in wild despair, and lament, in the most touching strains of sorrow, the bereavement they suffer. I know of nothing equal to the burst of grief manifested by these affectionate parents, excepting the afflicting accents of suffering humanity.

Their food consists of worms and insects generally; also caterpillars, beetles, and other coleopterous tribes, as well as various kinds of berries. In the month of

January I observed this Thrush and the Mocking-bird feed on the berries of the sumach. Sometimes they raise up a few grains of planted corn, but this is more the effect of caprice than appetite, as the search for grubworms is what commonly induces this resort to scratching up the soil. The Thrasher is an active, watchful, shy, and vigorous species, generally flying low, dwelling among thickets, and skipping from bush to bush, with his long tail sometimes spread out like a fan. About the first week in October after moulting, they disappear for the season, and pass the winter in the Southern States. By the middle of February, or early in March, they already display their vocal powers in the warmer parts of Georgia and West Florida. They are easily reared, and become very familiar and amusing companions, showing a strong attachment to the hand that feeds and protects them. In their manners, intelligence, song, and sagacity, they nearly approach to the Mocking-bird, being equally playful, capricious, petulant, and affectionate.*

The Brown Thrush is $11\frac{1}{2}$ inches long, and 13 in alar extent. The whole upper parts are of a bright reddish-brown; the wings are crossed with 2 bars of whitish, relieved with black. Tail very long, rounded at the end, broad, and of the same color with the back. Below yellowish-white, with the breast and sides marked with long pointed or pencillate dusky spots. Bill without notch; black above, whitish below near the base. Legs dusky brownish. Iris yellow, (much paler in the *young* bird.) In the *female* the white bars on the wing are narrower, and the spots on the breast smaller.

* For additional traits of this species, see the Introduction.



CAT-BIRD.

(*Turdus felivox*, VIEILL. *T. lividus*, WILSON, ii. p. 90. pl. 20. fig. 3.
Phil. Museum, No. 6770.)

SP. CHARACT.—Dark slate color, paler beneath; the vent rufous;
the crown and tail black, the latter rounded.

THIS quaint and familiar songster probably passes the winter in the southern extremities of the United States, and along the coast of Mexico, from whence, as early as February, they arrive in Georgia. About the middle of April they are first seen in Pennsylvania, and at length leisurely approach this part of New England, by the close of the first or beginning of the second week in May. They continue their migration also to Canada; but whether they proceed into the desolate arctic wilderness or not, we are ignorant. They are said, however,

to inhabit Kamtschatka, and consequently penetrate very far to the north. Throughout this extent, and to the territory of the Mississippi, they likewise pass the period of incubation and rearing their young. They remain in New England till about the middle of October, at which time the young feed principally upon wild berries.

The Cat-bird often tunes his cheerful song before the break of day, hopping from bush to bush, with great agility after his insect prey, while yet scarcely distinguishable amidst the dusky shadows of the dawn. The notes of different individuals vary considerably, so that sometimes his song, in sweetness and compass, is scarcely at all inferior to that of the Ferruginous Thrush. A quaintness, however, prevails in all his efforts, and his song is frequently made up of short and blended imitations of other birds, given, however, with great emphasis, melody, and variety of tone; and, like the Nightingale, invading the hours of repose, in the late twilight of a summer's evening, when scarce another note is heard, but the hum of the drowsy beetle, his music attains its full effect, and often rises and falls with all the swell and studied cadence of finished harmony. During the heat of the day, or late in the morning, the variety of his song declines, or he pursues his employment in silence and retirement.

About the 25th of May, one of these familiar birds came into the Botanic Garden, and took up his summer abode with us. Soon after his arrival he called up in low whisperings the notes of the *Whip-poor-will*, the Red Bird, the *peto peto* of the Tufted Titmouse, and other imitations of southern birds, which he had collected on his leisurely route from the south. He also soon mocked the *'tshe-yàh 'tshe-yàh* of the little Acadian Flycatchers, with which the neighbourhood now abounded. He frequent-

answered to my whistle in the garden, was very silent during the period of incubation, and expressed great anxiety and complaint on my approaching the young after their leaving the nest. According to Latham, the Cat-bird is also capable of imitating the variable airs of instrumental music, and will sometimes mimic the cry of chickens so as to deceive and distress the hen that attends them.

One of the most remarkable propensities of the Cat-bird, and to which it owes its name, is the unpleasant, loud, and grating cat-like *mew* ('*pāy*, '*pāy*, '*pāy*), which it often utters, on being approached or offended. As the irritation increases, this note becomes more hoarse, reiterated, and vehement; and sometimes this petulance and anger are carried so far, as to persecute every intruder who approaches the premises. This temper often prevails after the young are fledged, and though originating, no doubt, in parental anxiety, it sometimes appears to outlive that season, and occasionally becomes such an annoyance, that a revengeful and fatal blow from a stick or stone, is but too often, with the thoughtless and prejudiced, the reward of this harmless and capricious provocation. At such times, with little apparent cause, the agitation of the bird is excessive, she hurries backward and forward, with hanging wings, and open mouth, mew-ing and screaming in a paroxysm of scolding anger, and alighting almost to peck the very hand that offers the insult. To touch a twig or branch in any part of the garden or wood is often amply sufficient to call down the amusing termagant. This harmless excess, and simulation of grimalkin's tone, that wizard animal, so much disliked by many, are unfortunate associations in the cry of the *Cat-bird*; and thus coupled with an ill name, this delightful and familiar songster, who seeks out the very society of man, and reposes an unmerited confidence in

his protection, is treated with undeserved obloquy and contempt. The flight of the Cat-bird is laborious, and usually continued only from bush to bush; his progress, however, is very wily, and his attitudes and jerks amusingly capricious. He appears to have very little fear of enemies, often descends to the ground in quest of insects, and though almost familiar, is very quick in his retreat from real danger.

This common and abundant species begins to construct its nest some time in the month of May. The situation, in which he delights to dwell, is commonly a dark thicket, in the woods, or close bush in some re-cluse part of the garden, at the distance of 5 to 10 feet from the ground, according to the convenience of the situation. The materials are coarse but substantial; the external part is commonly made of small interlaced twigs, old grass, and dry leaves; to these succeed thin strips of bark, often of the red cedar, somewhat agglutinated. The inside is lined and bedded with black root-fibres of ferns; other accidental materials sometimes make a fantastic part of the fabric. One has been known to carry away an edging of lace which was missed, and at length again recovered after the rearing of the brood, whose dainty bed it assisted to form. I have frequently found in the external coat of the nest, the cast off skins of *snakes*, more rarely bits of newspapers, wood shavings, strings, and bass-mat strips. The eggs are 4 or 5, of a bright and deep emerald green, and without spots. According to the time of their arrival they raise two or even three broods in the season. The Cat-bird is not easily induced to forsake its nest. Wilson removed one containing 4 eggs, nearly hatched, from a grape-vine into a thicket of briars close by, which was soon occupied by the female, as if nothing had happened to it. Other

birds' eggs, those of the Thrasher, and young of the same species, were instantly turned out of the nest in which they had been placed. Yet the male, divesting himself of selfish jealousy, observing the distress and helplessness of the young thus dislodged by his mate, began to feed them as his own. Their sagacity is therefore superior to that of the ordinary Thrushes, as the *Turdus Wilsonii* is even one of the duped nurses occasionally employed by the Cow-Bird.

The food of the Cat-bird is similar to that of the preceding species, being insects and worms, particularly beetles, and various garden fruits; feeding its young often on cherries, and other kinds of fruits. Sometimes they are observed to attack snakes when they approach the vicinity of their brood, and commonly succeed in driving off the enemy; when bitten, however, by the poisonous kinds, it is probable, as related, that they may act in such a manner, as to appear laboring under the influence of fascination. The Cat-bird, when raised from the nest, is easily domesticated, becomes a very amusing inmate, and seems attached to his cage, as to a dwelling or place of security. About dawn of day, if at large, he flirts about with affected wildness, repeatedly jerks his tail and wings with the noise almost of a whip, and stretching forth his head, opens his mouth and mews. Sometimes this curious cry is so guttural as to be uttered without opening the bill. He often also gives a squeal as he flies from one place to another; and is very tame, though pugnacious to all other birds which approach him for injury. When wanting food, he stirs round with great uneasiness, jerks every thing about within his reach, and utters the feeble cry of the caged Mocking-bird. A very amusing individual, which I now describe, began his vocal powers by imitating the sweet and low warble of the

Song Sparrow, as given in the autumn ; and, from his love of imitation on other occasions, I am inclined to believe that he possesses no original note of his own, but acquires and modulates the songs of other birds. Like the Robin, he is exceedingly fond of washing, and dashes about in the water till every feather appears drenched ; he also, at times, basks in the gravel, in fine weather. His food, in confinement, is almost every thing vegetable, except unbruised seeds ; as bread, fine pastry, cakes, scalded corn-meal, fruits, particularly those which are juicy, and now and then insects and minced flesh.

The length of this species is about 9 inches. Above deep slate-color, lightest on the edges of the primaries, and also considerably paler below. The under tail-coverts reddish chestnut. Tail rounded. Upper part of the head, legs, and bill, black. — It occurs rarely pye-bald, with the head and back white, being nearly an albino. In a caged bird, I have also observed one or two of the tail-feathers and primaries partly white on their inner webs. — In the *young*, before the first moult, the rufous vent is paler, and the black of the head indistinct,



THRUSHES, *properly so called.*

AMERICAN ROBIN, OR MIGRATING THRUSH.

(*Turdus migratorius*, LIN. WILSON, i. p. 35. pl. 2. fig. 2. LATH., Synops. iii. p. 26.)

SP. CHARACT. — Dark ash-color; beneath rufous; head and tail black, the two exterior feathers of the latter white at the inner tip.

THE familiar and welcome Robin is found in summer throughout the North American continent, from the desolate regions of Hudson's Bay, in the 53d degree, to the table land of Mexico;* it is likewise a denizen of the territory of the Oregon,† on the western base of the Rocky Mountains. In all this vast space, the American Fieldfare rears its young, avoiding only the warmer maritime districts, to which, however, they flock for support during the inclemency of winter. In like man-

* Bullock's Memoir.

† Found, according to Latham, at Nootka Sound.

ner the common Fieldfare migrates at a late season from the northern deserts of Siberia and Lapland to pass the winter in the milder parts of Europe. The Robin has no fixed time for migration, nor any particular rendezvous; they retire from the higher latitudes only as their food begins to fail, and so leisurely and desultory are their movements, that they make their appearance in straggling parties even in Massachusetts, feeding on winter berries, till driven to the south by deep and inundating snows. At this season they swarm in the Southern States, though they never move in large bodies. The holly, prinos, sumach, smilax, candle-berry myrtle, and the Virginian juniper now afford them an ample repast in the winter, in the absence of the more juicy berries of autumn, and the insects and worms of the milder season. Even in the vicinity of Boston, flocks of Robins are seen, in certain seasons, assembling round open springs in the depth of winter, having arrived probably from the colder interior of the state; and in those situations they are consequently often trapped and killed in great numbers.

Towards the close of January, in South Carolina, the Robin, at intervals, still tuned his song; and about the second week of March, in the Middle States, before the snows of winter have wholly disappeared, a few desultory notes are already given. As soon as the 10th of this month, they may, at times, also be heard in this part of New England. Early in April, however, at the close of the jealous contests, which are waged with obstinacy, they are only seen in pairs, and now, from the orchard or the edge of the forest, deliver their simple thrilling lays, in all the artless energy of true affection. This earnest song recalls to mind the mellow whistle of the Thrush,* which, in the charming month of May, so sweetly rises

* *Turdus musicus*, LIN.

in warbling echoes from the low copse and shady glen. Our American bird has not, however, the compass and variety of that familiar and much loved songster ; but his freedom and willingness to please, render him an universal favorite, and he now comes, as it were, with the welcome prelude to the general concert, about to burst upon us from all the green woods and blooming orchards. With this pleasing association with the opening season, amidst the fragrance of flowers, and the improving verdure of the fields, we listen with peculiar pleasure to the simple song of the Robin. The confidence he reposes in us by making his abode in our gardens and orchards, the frankness and innocence of his manners, besides his vocal powers to please, inspire respect and attachment even in the truant school-boy, and his exposed nest is but rarely molested. He owes, however, this immunity in no small degree to the fortunate name which he bears ; as the favorite Robin Redbreast, said to have covered, with a leafy shroud, the lost and wandering “babes in the wood,”* is held in universal respect in every part of Europe, where he is known by endearing names, and so familiar in winter that he sometimes taps at the window, or enters the house in search of crumbs, and, like the domestic fowls, claims his welcome pittance at the farmer’s door.

The nest of this species is often on the horizontal branch of an apple tree, or in a bush or tree in the woods, and so large, as to be scarcely ever wholly concealed. The materials, chiefly leaves, old grass, and sometimes whitish moss (*Bæomyces* Sp.), are cemented together inside by a plastering of bog-mud, often filled with fibrous roots, somewhat after the manner of the Thrush, but the interior is lined with short, dry, rotten

* A well known legend to this effect.

straw, and a mat of old grass. The eggs, about 5, are of a bluish green and without spots. So nearly domestic at times are their habits, that an instance is known, where they successively raised two broods out of the same nest. They show great affection and anxiety for the safety of their young, keeping up a noisy cackling chirp when the place is approached ; and they have often serious contests with the piratical Cuckoo, who slyly watches the absence of the parents to devour their eggs. To avoid these visits and the attacks of other enemies, the Robin has been known to build his nest within a few yards of the blacksmith's anvil ; and in Portsmouth (New Hampshire) one was seen to employ for the same purpose the stern timbers of an unfinished vessel, in which the carpenters were constantly at work ; the bird appearing, by this adventurous association, as if conscious of the protection of so singular and bold a situation. I have also seen a nest of the Robin bottomed with a mass of pine shavings, taken without alarm from the bench of the carpenter. The European Thrush is sometimes equally familiar ; a pair being known to make a nest on a harrow, among some other agricultural implements suspended on the joists of a cart-shed, in which 3 men were at work at the time ; and here they built and reared their young in safety. In this instance, the female was in such haste, that she laid an egg before the finishing of the nest, and while the male carried on the necessary labor for its completion ; so that this singular resort had apparently been forced upon the pair immediately after the loss of the object of their first labor, and they now successfully threw themselves and their concerns upon the protection of the human species. From the petulant and reiterated chirp so commonly uttered by the Robin, when surprised or irritated, the Indians of Hudson's Bay call

him, from this note, *Pee-pée-tshu*. They often also utter a loud echoing 'kh 'kh 'kh, and sometimes chip in a high or slender tone when alarmed, and with an affectation of anger sharply flit the tail and ends of the wings. They raise several broods in a season, and considerable numbers flock together in the latter end of summer and autumn. When feeding on cherries, poke, sassafras, and sour-gum berries, they are so intent as to be easily approached and shot down in numbers; and when fat, are justly esteemed for food, and often brought to market. In the spring they frequently descend to the ground in quest of worms and insects, which then constitute their principal support.

They are commonly brought up in the cage, and seem very docile and content. They sing well, readily learn to imitate lively parts of tunes, and some have been taught to pipe forth psalms even to so dull and solemn a measure as that of "*Old Hundred*"! They acquire also a considerable taste for mimicry, imitating the notes of most of the birds around them, such as the Blue-bird, Pewee, Whip-poor-will, and others. On being approached with the finger, they usually make some show of anger by cracking and snapping the bill. At times they become very tame, and will go in and out of the house with domestic confidence, feel uneasy when left alone, and on such occasions, have sometimes the sagacity of calling attention by articulating endearing words, as *pretty, pretty*, &c. connecting, apparently with these expressions, their general import of attentive blandishment. They become almost naked in the moulting season, in which they appear to suffer considerably, yet have been known to survive for 17 years or upwards. The rufous color of the breast becomes deeper in those birds which thus live in confinement. Their principal song is in the

morning, and commences before sunrise, at which time it is very loud, full, and emphatic.

The Robin is $9\frac{1}{2}$ inches in length. Head, back of the neck, and tail, black; the back and rump ash-color. The wings black, edged with pale ash. Three small spots of white border the eye. Throat and upper part of the breast black, the former streaked with white. Below, dark orange or rufous. Belly and vent white. Legs dark brown. Bill yellow, as in the European Blackbird; sometimes dusky brown above towards the tip. The colors of the female are paler. The young, during the 1st season, are spotted with white and dusky on the breast, and at that time bear a considerable resemblance to the Fieldfare of Europe.

WOOD THRUSH.

(*Turdus mustelinus*, GM. AUDUBON, pl. 73. *T. melodus*, WILSON, i. p. 35. pl. 2. fig. 1. Tawney Thrush, PENNANT's *Arctic Zoölogy*, ii. p. 19. No. 198. LATHAM, Synops. iii. p. 28. No. 15.)

SP. CHARACT. — Cinnamon-brown, rufous on the head; rump and tail inclining to olive; beneath white, spotted with blackish; tail short, slightly emarginate; the bill of moderate length.

THIS solitary and retiring songster, during summer, inhabits the whole continent from Hudson's Bay to Florida; and, according to my friend Mr. Ware, breeds as far south as the vicinity of Natchez, in the territory of Mississippi. Whether they leave the boundaries of the United States in the winter, is not satisfactorily ascertained; as the species is then silent, and always difficult of access, its residence is rendered peculiarly doubtful. The lateness of the season in which they still linger, renders it probable, that they may winter in the Southern States, as a young bird, gleaning insects and berries, has been caught in a garden in Boston on the 26th of October.

From the southern parts of the Union, or wherever he may winter, the Wood Thrush arrives in the Middle States from the 1st to the 15th of April; though his appearance here, where the species is scarce, does not take place earlier than the beginning of May. At the dawn of morning he now announces his presence in the woods, and from the top of some tall tree, rising through the dark and shady forest, he pours out his few, clear, and harmonious notes in a pleasing reverie, as if inspired by the enthusiasm of renovated nature. The prelude to this song resembles almost the double tonguing of the flute, blended with a tinkling, shrill, and solemn warble, which reëchoes from his solitary retreat, like the dirge of some sad recluse, who shuns the busy haunts of life. The whole air consists usually of 4 parts or bars, which succeed, in deliberate time, and finally blend together in impressive and soothing harmony, becoming more mellow and sweet at every repetition. Rival performers seem to challenge each other from various parts of the wood, vying for the favor of their mates, with sympathetic responses and softer tones; and some, waging a jealous strife, terminate the warm dispute by an appeal to combat and violence. Like the Robin and the Thrasher, in dark and gloomy weather, when other birds are sheltered and silent, the clear notes of the Wood Thrush are heard through the dropping woods, from dawn to dusk, so that, the sadder the day, the sweeter and more constant is his song. His clear and interrupted whistle is likewise often nearly the only voice of melody heard by the traveller, to mid-day, in the heat of summer, as he traverses the silent, dark, and wooded wilderness, remote from the haunts of men. It is nearly impossible by words to convey any idea of the peculiar warble of this vocal hermit; but amongst his phrases, the sound

of *'airöee*, peculiarly liquid, and followed by a trill, repeated in two interrupted bars, is readily recognisable. At times their notes bear a considerable resemblance to those of Wilson's Thrush; such as *eh rhehu 'vrhehu*, then varied to *'eh villia villia*, *'eh villia vrhehu*, then, *'eh velu villu*, high and shrill.

The Wood Thrush is always of a shy and retiring disposition, appearing alone, or only in single pairs, and while he willingly charms us with his song, he is content and even solicitous to remain concealed. His favorite haunts are low, shady glens by water-courses, often rendered dark with alder bushes, mantled with the trailing grape-vine. In quest of his insect prey, he delights to follow the meanders of the rivulet, through whose leafy shades the sun-beams steal only in a few interrupted rays over the sparkling surface of the running brook. So partial is this bird to solitude, that I have known one to sing almost uniformly in the same place, though nearly half a mile from his mate and nest. At times indeed he would venture a few faltering, low notes in an oak near his consort, but his mellowest morning and evening warble was always delivered from a tall hickory, overtopping a grove of hemlock firs, in which the dimness of twilight prevailed even at noon. The Wood Thrush, like the Nightingale, therefore feels inspired in darkness, but instead of waiting for the setting sun, he chooses a retreat where the beams of day can seldom enter. These shady retreats have also an additional attraction to our Thrush; it is here that the most interesting scene of his instinctive labor begins and ends; here he first saw the light, and breathed into existence; and here he now bestows his nest in a sapling oak, or in the next thick laurel or blooming alder, whose berries afford him an ample repast in the coming autumn. Outwardly it presents a warm bed

of withered beech or oak leaves, above these a layer of coarse old grass and leaf-stalks is laid, tempered with a mixture of mud and decayed wood smoothly plastered, so as to form a crust like the nest of the Robin. The whole is then surmounted by a thin lining of the black, fibrous radicles of the fern. The eggs, 4 or 5, scarcely distinguishable from those of the Robin, are of an uniform bright greenish blue and destitute of spots. Beetles, caterpillars, various insects, and, in autumn, berries constitute the principal food of the Wood Thrush. The young remain for weeks around gardens in quest of berries, and are particularly fond of those of the various species of cornel and viburnum. At this season they occasionally leave their favorite glens, and in their devious wanderings, previous to their departure, sometimes venture to visit the rural suburbs of the city. The young are easily reared, and sing nearly as well in the cage as in their native wilds.

The Wood Thrush measures about 8 inches in length, and 13 in alar extent. Above, bright cinnamon-brown, brightening into rufous on the head, and inclining to olive on the rump and tail. Beneath, whitish, thickly marked with pencil-shaped dusky spots. The vent pure white. Orbits of the eye white. Bill dusky brown, slightly notched, the lower mandible flesh-colored towards the base. Legs and claws very pale flesh-color. Iris dark chocolate.

LITTLE OR HERMIT THRUSH.

(*Turdus minor*, GM. PENNANT, ii. p. 20. No. 201. *T. solitarius*, WILSON, v. p. 95. pl. 43. fig. 2. AUDUBON, pl. 58. [excellent.] Phil. Museum, No. 3542.)

SP. CHARACT.—Olive-brown, inclining to rufous on the tail; beneath brownish white, spotted with dusky brown on the breast and under the wings; tail short and emarginate; the bill short.

THIS species, so much like the Nightingale in color, is scarce inferior to that celebrated bird in its powers of song,* and greatly exceeds the Wood Thrush in the melody and sweetness of its lay. It inhabits the United States, from the lofty alpine mountains of New Hampshire to Florida. It is also met with on the table land of Mexico, and in the warmer climate of the Antilles. In Pennsylvania, New Jersey, and New England, at the close of autumn, it appears to migrate eastward to the sea-coast in quest of the winter berries, on which it now feeds; in spring and summer it lives chiefly on insects and their larvæ, and also collects the surviving berries of the *Mitchella repens*.

Like the preceding species, it appears to court solitude, and lives wholly in the woods. In the Southern States, where it inhabits the whole year, it frequents the dark and desolate shades of the cane swamps. In these, almost Stygian regions, which, besides being cool, abound probably with its favorite insect food, we are nearly sure to meet our sweetly vocal hermit flitting through the settled gloom, which the brightest rays of noon scarcely illumine with more than twilight. In one of such swamps, in the Choctaw nation, Wilson examined a nest of this species, which was fixed on the horizontal branch of a tree, formed with great neatness and without using any plastering of mud. The outside was made of a layer of coarse grass, having the roots attached, and intermixed with horse-hair; the lining consisted of green filiform blades of dry grass, very neatly wound about the interior. The eggs, 4 to 6, of a pale greenish blue, were marked towards the great end with specks and blotches of olive.

* My friend, Mr. C. Pickering, remarks, that the song of this species is far superior to that of the Wood Thrush. Wilson considered it mute.

In the Middle States this species is only seen for a few weeks in the spring and fall. They arrive in this part of New England about the 10th of April, and disperse to pass the summer in the seclusion of the forest. They are often seen on the ground in quest of their food, and frequent low and thick copses, into which they commonly fly for concealment when too attentively observed; though when in small companies, in the spring season, they do not appear very shy, but restless, from the unsettled state of their circumstances. When dispersed, they utter a low, chirping call, and for some time continue to frequent the same secluded part of the forest in society. At times, like the Wagtail, they keep this part of their body in a slow, vertical motion. In manners it strongly resembles the following species; but its song seems to be unusually lively and varied, warbling almost like the Yellow Bird, and then chanting like the Robin. In Lower Louisiana, they are said to raise two broods in the season.

The length of the Hermit Thrush is about $7\frac{1}{2}$ inches; alar extent $10\frac{1}{2}$. Above, plain deep olive-brown. Below, dull white; upper part of the breast and throat of a delicate cream color, inclining to nankeen; the dusky brown pencillated spots carried over the breast and under the wings where the sides are pale olive; 3d primary longest, inner webs inclining to dusky, the outer nearly as rufous as the tail; on the inner webs of the secondaries a large oval spot of bright nankeen color. Tail and coverts, as well as the wings, strongly tinged with rufous. Legs pale flesh-color, the tarsus very long. Bill black above the lower mandible, flesh-colored below. Iris nearly black, and large. — The *female* darker, and with the spots on the breast larger and more dusky.

NOTE. The *Brown Thrush* of Pennant and Latham agrees pretty nearly with the Hermit Thrush (*T. solitarius*) of Wilson, and differs, in several important particulars, with the bird of this article. The bird of Wilson's figure, if correctly done, I have never seen in Massachusetts.

WILSON'S THRUSH, OR VEERY.

(*Turdus Wilsonii*, BONAP. *T. mustelinus*, WILSON (not of GMEL.), v. p. 98. pl. 43. fig. 3. Little Thrush, LATH. Synops. iii. p. 20. (not of PENNANT, &c.) Phil. Museum, No. 5570.)

SP. CHARACT. — Tawny-brown; beneath whitish, with dusky spots on the throat, which is inclined to tawny yellow; tail short, nearly even, the feathers pointed; bill short.

THIS common northern species arrives in Pennsylvania and New England about the beginning of May. How far they extend their northern migration is uncertain, though probably to Labrador. They appear to retire to the south early in October, and are more decidedly insectivorous than any other native species. According to Wilson, many winter in the myrtle swamps of South Carolina. I have not, however, seen them in the Southern States at that season, and most part of the species pass on probably as far as the coast of the Mexican Gulf. They do not, according to Wilson, breed in the lower parts of Pennsylvania, though undoubtedly in the mountainous districts, where they are seen as late as the 20th of May. They propagate and are very common in Massachusetts.

In its retiring habits and love of concealment this Thrush resembles the preceding. They frequent the dark and shady borders of small brooks and woods, and sometimes the bushy and retired parts of the garden; from whence, without being often seen, in the morning, and particularly the evening, to the very approach of night, we often hear the singular, quaint, and musical note of this querulous species, at short intervals, as he perches upon some low branch of a tree or bush. This curious whistling note sounds like 'vehu 'v'rehu 'v'rehu 'v'rehú, and sometimes 'veă veă 'vrehă 'vrehă vehú, running up the notes till they become shrill and quick at

the close, in the first phrase ; but from high to low, and terminating slender and slow, in the latter ; another expression seems to be, 've *veá vehurr*, ascending like a whistle. The song of another individual was expressed in the following manner, 've 'villill 'villill 'tullüll 'tullül. It was then repeated with variation, 've villillil villill villill ; then villillill villillill, tullillill tullillill ; the whole agreeably and singularly delivered in a shrill, hollow voice, almost like the sound of liquor passing through a funnel into a bottle. I have also heard several of these sounds, sometimes occasionally prefaced by a mewing or chirping warble. These sounds, though monotonous, are possessed of greater variety than is at first imagined, the terminating tone or key changing through several repetitions, so as to constitute a harmony and melody, in some degree approaching the song of the more musical Wood Thrush. From this habit of serenading into the night, the species is sometimes here dignified with the nickname of the Nightingale. Occasionally he utters an angry, rather plaintive mew, like the Cat-bird, or a quivering bleat, almost similar to that of a lamb, and, when approached, watches and follows the intruder with an angry or petulant *quedh quedh* ; at other times, a sort of mewing, melancholy, or complaining *y'cow y'cow* is heard ; and then, perhaps, a hasty and impatient *péüt péüt* follows. The food of this species, at least during the early part of summer, appears to be shelly insects of various kinds, particularly *Chrysomelas*, or lady-bugs, and those many legged hard worms of the genus *Iulus*.

A good while after the commencement of the period of incubation, I have observed the males engaged in obstinate quarrels. On the 4th of June (1830) I observed two of these petulant Thrushes thus fiercely and jeal-

ously contending ; one of them used a plaintive and angry tone as he chased his antagonist up and down the tree ; at length, however, a cousin Cat-bird, to which this species has some affinity, stepped in betwixt the combatants, and they soon parted. One of these birds had a nest and mate in the gooseberry bush of a neighbouring garden ; the second bird was thus a dissatisfied hermit, and spent many weeks in the Botanic Garden, where, though at times sad and solitary, yet he constantly amused us with his forlorn song, and seemed at last, as it were, acquainted with those who whistled for him, peeping out of the bushes with a sort of complaisant curiosity, and from his almost nocturnal habits became a great persecutor of the assassin Owl, whenever he dared to make his appearance.

The nest of Wilson's Thrush (commenced about the close of the first week in May) is usually in a low and thorny bush, in the darkest part of the forest, at no great distance from the ground (1 to 3 feet), sometimes indeed on the earth, but raised by a bed of leaves, and greatly resembles that of the Cat-bird. This species seems, indeed, for security artfully to depend on the resemblance of itself and its leafy nest with the bosom of the forest on which it rests, and when approached it sits so close as nearly to admit of being taken up by the hand. The nest sometimes appears without any shelter but shade and association of colors with the place on which it rests. I have seen one placed on a mass of prostrated dead brambles ; on a fallen heap of lilac twigs in a ravine ; and also in a small withered branch of red oak, which had fallen into a bush ; below, it was also bedded with exactly similar leaves, so as easily to deceive the eye. But with all these precautions they appear to lose many eggs and young by squirrels and other animals. The nest is usu-

ally bottomed with dry oak or beech leaves, coarse stalks of grass and weeds, and lined very generally with naturally dissected foliage, its stalks, some fine grass, and, at other times, a mixture of root-fibres ; but no earth is employed in the fabric. The eggs, 4 or 5, are of an emerald green, without spots, and differ from those of the Cat-bird only in being a little smaller and more inclined to blue. So shy is the species, that though I feigned a violent chirping near the nest containing their young, which brought Sparrows, and a neighbouring Baltimore to the rescue, the parents, peeping at a distance, did not venture to approach, or even express any marked concern, though they prove very watchful guardians when their brood are fledged and with them in the woods. They have commonly two broods in the season ; the second being raised about the middle of July ; after which their musical notes are but seldom heard. I afterwards, by an accident, obtained a young fledged bird, which retained in the cage the unsocial and silent timidity peculiar to the species.

Wilson's Thrush is about 7 inches long, and 12 in alar extent. Above, of an uniform tawny-brown. Beneath white ; the sides of the breast and under the wings, slightly tinged with ash-color ; chin white ; throat and upper part of the breast cream-color, marked with pointed spots of brown. The tail nearly even, the shafts, as well as those of the wing-quills, continued a little beyond their webs. Bill black above, below flesh-colored at base. Iris dark. Legs slender, pale brown.

Subgenus. — SEIURUS. (Genus SEIURUS, *Swainson*.)

Bill scarcely depressed at base, and with the bristles at the opening of the mouth scarcely visible. — The two species here associated have little affinity in character and habit ; they are however inseparable from the true Thrushes, and are rather remarkable for the

habit of moving the tail. In *T. aurocapillus*, the *white* and spotted eggs, very artful nest, and usual monotonous rattling notes, are exceptions to its arrangement either in *Sylvia* or *Turdus*, except as a subgenus.

NEW YORK OR AQUATIC THRUSH.

(*Turdus noveboracensis*, NOBIS. *T. aquaticus*, AUDUBON, pl. 19.

WILSON, iii. p. 66. pl. 23. fig. 5. *Sylvia noveboracensis*, LATHAM and BONAP. Phil. Museum, No. 6896.)

SP. CHARACT. — Dark olive ; beneath and line over the eye yellowish white ; breast and sides with dusky pencil-shaped spots.

THIS shy and retiring sylvan species extends its summer migrations throughout the United States, breeding rarely in Pennsylvania, proceeding principally to the mountainous Western and Northern regions at the period of incubation.

The New York Warbler has a particular partiality for the vicinity of waters, wading in the shallow streams in search of aquatic insects, moving its tail as it leisurely follows its pursuit, and chattering as it flies. During its transient migrating visits it is very timid, and darts into the thickets as soon as approached, uttering a sharp and rather plaintive *tship*' of alarm. About the beginning of May, it appears in Pennsylvania from the South, and stays around dark and solitary streams for 10 or 12 days, and then disappears until about the middle of August, when, on their way to their tropical winter quarters, they leave the swamps and mountains of their summer retreat, and, after again gleaning a transient subsistence for a few days towards the sea-coast, depart for the season. In Massachusetts, they are scarcely ever seen except in the autumn, and continue in shady gardens, probably feed-

ing on small wild berries till nearly the close of September.

It appears, according to Wilson, that the favorite resort of this, or a nearly allied species (the *Turdus ludovicianus* of Audubon), is in the cane-brakes, swamps, river shores, and watery solitudes of Louisiana, Tennessee, and Mississippi. Here they are abundant, and are eminently distinguished by the loudness, sweetness, and expressive vivacity of their notes, which, like the Nightingale's, beginning high and clear, flow and descend in a cadence so delicate as to terminate in sounds, scarcely audible above the whispering breeze. At such times he sits perched on some branch which stretches impending over the flowing stream, and pours out his charming melody with such effect as to be heard at the distance of nearly half a mile, giving a peculiar charm to the dark and solitary wilds he inhabits. The silence of night is, also, at times, relieved by the incessant warble of this Western Philomel, whose voice, breaking upon the ear of the lonely traveller in the wilderness, seems like the dulcet lay of some fairy vision. His song is also heard in the winter, when the weather proves mild. In this habit he appears considerably allied to the Reed Thrush* or River Nightingale of Europe, which night and day almost ceaselessly sings and soothes his sitting mate, among the reeds and marshes of his favorite resorts. This bird, in Louisiana, commences its nest early in April. It is placed usually at the foot of a tree, or by the side of a decayed log, and is formed of dry leaves, moss, and fine grass, being lined with hair or the similar fibres of the Spanish moss (*Tilandsia*). The eggs are 4 or 5, flesh-color, with dark red spots at the greater end. When startled from her eggs or young,

* *Turdus arundinaceus*.

the female tumbles in the path and simulates lameness. In this bird, according to Audubon, the legs and feet are of a deep bluish brown, and the tail forked. It does not appear to be strictly aquatic. The northern bird, also, is never heard to sing, and the country in which it breeds is unknown.

The Aquatic Thrush is about 6 inches long, and $9\frac{1}{2}$ in alar extent. Above very dark olive, with a line of whitish extending over the eye, and along the sides of the neck. Below, white, tinged with pale yellow; the whole breast and sides marked with dark brown pencil-shaped spots. Bill dusky brown. Legs flesh-colored. Tail nearly even. The sexes almost alike in plumage.

GOLDEN-CROWNED THRUSH, OR OVEN-BIRD.

(*Turdus aurocapillus*, WILSON, ii. p. 88. pl. 14. fig. 2. *Sylvia aurocapilla*, BONAP.)

SP. CHARACT.—Yellow-olive; crown brownish-orange, margined on each side by a dusky line; beneath white, the breast spotted with blackish.

THIS rather common bird, so nearly allied to the true Thrushes, is found throughout the forests of the United States during the summer, arriving in the Middle and Northern States about the beginning of May or close of April, and departing for tropical America, Mexico, and the larger West India islands early in September.

The Golden-crowned Thrush, shy and retiring, is never seen out of the shade of the woods, and sits and runs along the ground often like the Lark; it also frequents the branches of trees, and sometimes moves its tail in the manner of the Wagtails. It has few pretensions to song, and while perched in the deep and shady

part of the forest, it utters, at intervals, a simple, long reiterated note of *'tsk'e tshe tshe tshe tshe*, rising from low to high and shrill, so as to give but little idea of the distance or place from whence the sound proceeds, and often appearing from the loudness of the closing cadence to be much nearer than it really is. As soon as discovered, like the Wood Thrush, it darts at once timidly into the depths of its sylvan retreat. During the period of incubation, the deliberate lay of the male, from some horizontal branch of the forest tree, where he often sits usually still, is a *'tshe te tshe tẽ tshe tẽ tshee*, gradually rising and growing louder. Towards dusk in the evening, however, it now and then utters a sudden burst of notes with a short agreeable warble, which terminates, commonly in the usual *'tshe te tshe*. Its curious oven-shaped nest is known to all the sportsmen who traverse the solitary wilds which it inhabits. This ingenious fabric is sunk a little into the ground, and generally situated on some dry and mossy bank contiguous to bushes, or on an uncleared surface; it is formed with great neatness of dry blades of grass, and lined with the same; it is then surmounted by a thick inclined roof of similar materials, the surface scattered with leaves and twigs so as to match the rest of the ground, and an entrance is left at the side. Near Milton hills, in this vicinity, the situation chosen was among low whortleberry bushes, in a stunted cedar and oak grove. The eggs, 4 or 5, white, are irregularly spotted near the greater end, with reddish brown. When surprised, the bird escapes, or runs from the nest with the silence and celerity of a mouse. If an attempt be made to discover the nest from which she is flushed, she stops, flutters, and pretends lameness, and watching the success of the manœuvre, at length, when the decoy seems complete, she takes to wing and disappears. This

bird is another of the foster-parents sometimes chosen by the Cow Troopial; and she rears the foundling with her accustomed care and affection, and keeps up an incessant *tship* when her unfledged brood are even distantly approached. They have often two broods in a season in the Middle States. Their food is wholly insects and their larvæ, particularly small coleopterous kinds and ants, chiefly collected on the ground.

This species is 6 inches long, and 9 in alar extent. Above rich yellow-olive; the tips of the wings and inner vanes of the quills dusky brown; the 3 first primaries are about equal. From the nostrils a dusky line passes to the hind head; crown brownish-orange. Below white, the breast covered with deep brown pencil-shaped spots. Legs pale flesh-color. Bill dusky, below whitish. In the female the crown is paler.

WATER OUSELS. (CINCLUS, *Cuvier*.)

In these birds the BILL is of moderate size, straight, compressed, the edges sharp and slightly incurved, and with the point of the upper mandible curved over the lower. NOSTRILS basal, lateral, concave, longitudinal, and covered by a membrane. — *Tarsus* longer than the middle toe; outer toe attached to the inner at the base, the lateral toes equal. *Wings*, with the 3d and 4th primaries longest.

The *female* scarcely differs in plumage from the male; — the *young* more tinged with rufous. The moult is annual; and the plumage water-proof.

These curious birds associate only in single pairs, and frequent brooks and clear streams, diving and walking on the gravelly bottom beneath the surface of the water, which constitutes their favorite element. They feed on aquatic insects, small crustacea, and the spawn of the trout. They build in the vicinity of rivulets, a well concealed, covered, and very artful nest. Their flight is rapid, straight, and skimming along the surface of the water. The voice is feeble and shrill. — The genus consist of only 2 or 3 species indigenous to the northern, or mild regions.

BLACK WATER-OUSEL, OR DIPPER.

(*Cinclus Pallasii*, TEMM. BONAP. Am. Orn. 3. pl. 16. fig. 1. Phil. Museum, No.)

SP. CHARACTER.— Wholly dark cinereous.

THIS species, of a very remarkable genus, chiefly distinguished from that of Europe by the absence of the white on the chin and throat, seems to have been first noticed by Pallas in the Crimea,* and afterwards by Mr. Bullock in Mexico, from whence it appears, by an exclusive interior route, to penetrate into the wild and remote interior of Canada as far as the shores of the Athabaska lake, where the specimen was obtained which afforded the figure for Bonaparte's splendid Continuation of the American Ornithology.

Of the particular habits of this bird, nothing is yet known. The common European species are shy and solitary birds, dwelling near clear and tumultuous mountain streams, from the torrents of the Alps and Appennines, to the wilds of Scotland. It is also seen, even by the close of March, in Sweden, and Finland on the banks of the Tornea, near to cataracts, in the vicinity of the polar circle.† They are never seen to perch on branches, frequent the gravelly beds of rivulets strewn with rocks, and flit from stone to stone, at times, attentively watching their aquatic prey; as soon as it is espied, they plunge after it, beneath the water to the bottom, and never hesitate to enter the stream, and precipitate themselves without fear or danger amidst the eddies of the brawling flood. They even nest, occasionally, in the cavities, be-

* Bonaparte is of opinion that the specimens of Temminck, received from Pallas, were probably derived from America, and not from Tartary.

† Skiolebrand's Picturesque Voyage to Cape North. p. 15, (French translation.)

hind the waterfall when it overshoots the impending rocks. Water is, in fact, their proper element, though they are neither fitted to swim nor to wade with ordinary aquatic birds, but they walk or fly with ease beneath it, across streams from bank to bank ; they even walk in this way submerged, among the gravel against the force of the current. When the water becomes deep enough for them to plunge, they open and drop their wings, with an agitated motion, and with the head stretched out, as in the ordinary act of flying in the air, descend to the bottom, and there, as if on the ground, course up and down in quest of food. While under the water, to which their peculiar plumage is impermeable, they appear silvered over with rapidly escaping aërial bubbles, and bid defiance to every enemy while defended in so singular a retreat. When out of the water they also run with rapidity, and fly direct and swift as an arrow, skimming the surface of their favorite element, in the manner of the Kingfisher ; and at the next moment, as the case may be, they are perhaps seen to plunge out of sight without alighting, and, like the Loon, again come into view in the eluding distance. While on the wing they utter a shrill and feeble cry, occasionally varied ; and in the very depths of winter and early spring contribute to cheer their wild and dreary haunts by their simple, clear, and sweetly warbled notes.

They pair early, and are said to raise two broods in the season. The young, while yet unfledged, escape from threatening danger by dropping from their impending nest into the surrounding water. This curious cradle, by the side of some romantic mountain rivulet, on the ledge of a rock, steep mossy bank, or near some fallen block from the cliff, is made in the form of a dome, the frame-work often of moss (*hypna*) and sweet wood-roof

(*Asperula odorata*), neatly arched over, perhaps, by a withered fern leaf, surmounted by a coating of green moss, and a few additional pieces of other slender materials. The lining is similar, but finer and smoothly arranged. Sometimes, under a bridge, the same pair have been known to renew their labors in the same place for three successive times. The young, from their situation, are readily supplied with fish, their appropriate food. The eggs are 4 to 6, and white. Such are the habits of the common Dipper, which, in great part, also probably apply to the American bird.

The length of Pallas's Dipper or Ousel is about $8\frac{1}{2}$ inches. The whole bird is of a dark grayish slate color; at the upper orbit of the eye there is a slight indication of whitish. The general color somewhat deeper on the head, and a shade lighter beneath. The primaries incline somewhat to brown. Tail even. Feet flesh-color.

THE WARBLERS. (*SYLVIA*, *Lath.*)

In these the BILL is slender, straight, awl-shaped, higher than it is wide at the base, and furnished with scattered bristles; the lower mandible straight. NOSTRILS basal, lateral, oval, half closed by a membrane. Tongue lacerated at tip. Tarsus longer than the middle toe; inner toe free; posterior nail shorter than the toe. — Wings moderate or short; spurious feather generally short; 1st and 2d primaries, 2d and 3d, or 3d and 4th longest; scapulars considerably shorter than the quill feathers.

The female generally distinguished by a less vivid plumage. The young usually resume the adult livery after the first moult. They moult once, though in some species twice in the year.

Of this numerous genus there are species spread over the whole globe. They are generally small, sprightly, and endowed with an incessant activity, in accordance with the subtleness of their flying insect prey; they therefore approach both in habit and character the Flycatchers, Vireos, Thrushes, Saxicolas, and Wrens so nearly, that

it is rendered, at times, doubtful to which of these several genera they ought to be referred. They principally inhabit forests or thickets and some affect watery situations or reed marshes. Many are remarkable for the melody of their song, and the sprightliness of the airs, which in the period of incubation they almost incessantly pour forth. The Nightingale, so celebrated for his powerful, varied, and pathetic lay, as well as the humble, but tuneful Robin Red-breast, belong to this highly vocal genus; and though many species seek out the arctic solitudes in which to waste their melody, or sooth alone their mates, yet other species may be numbered among the more familiar tenants of our gardens, groves, and orchards. Living almost exclusively on the winged insects of summer, which they dexterously catch in the air, or pick from off the leaves, they migrate to the south in autumn, and pass the winter in the warm or tropical regions. Some exist, more or less generally, on berries in the latter end of the year, and consequently find means thus to winter in the milder climates which are exempt from severe extremes. Among many of the species, the more active and vigorous male, intent on the object of his migration, precedes the arrival of the female.

Subgenus. — SYLVIA, (OR TRUE WARBLERS.)

With the upper mandible slightly curved, and notched near the tip.

YELLOW-CROWNED WARBLER, OR MYRTLE-BIRD.

(*Sylvia coronata*, LATHAM. WILSON, ii. p. 138. pl. 17. fig. 4. [summer plumage] and 5. p. 121. pl. 45. fig. 3. [young]. Philad. Museum, No. 7134.)

SP. CHARACT. — Blackish slate-color, streaked with black; beneath white; breast spotted with black; crown, sides of the breast, and rump yellow; wings bifasciate with white, and with the tail black; three lateral tail-feathers spotted with white. — *Winter plumage* edged with brownish-olive, the yellow of the crown partly concealed by a margin of the same olivaceous color; no black on the head or face. — *Young* more brown, with the yellow much paler, and nearly without black

THE history of this rather common Warbler remains very imperfect. In the Middle and Northern States, it is a bird of passage, arriving from the South about the close of April or beginning of May, and proceeding, as is supposed, north to pass the summer season in the cares of breeding and rearing their young. As early as the 30th of August, or after an absence of little more than three months, they again appear; and being a hardy species, passing parties continue with us in gardens and woods till about the close of November, feeding now almost exclusively on the myrtle-wax berries (*Myrica cerifera*), or on those of the Virginian juniper. These, other late and persisting berries, and occasional insects, constitute their winter food in the Southern States, where, in considerable numbers, in the swamps and sheltered groves of the sea-coast, they pass the cold season. In fine weather, in the early part of October, they may be seen, at times, collecting grasshoppers and moths from the meadows and pastures, and like the Blue-bird, they often watch for the appearance of their prey from a neighbouring stake, low bough, or fence rail; and at this time are so familiar and unsuspicious, particularly the young, as fearlessly to approach almost within the reach of the silent spectator. At the period of migration, they appear in an altered and less brilliant dress; the bright yellow spot on the crown is now edged with brownish-olive, so that the prevailing color of this beautiful mark is only seen on shedding the feathers with the hand; a brownish tint is also added to the whole plumage; but Wilson's figure of this supposed autumnal change only represents the young bird. The old is, in fact, but little less brilliant than in summer, and I have a well-founded suspicion, that the wearing of the edges of the feathers, or some other secondary cause, alone produces this change in the

livery of spring, particularly as it is not any sexual distinction.

While feeding they are very active, in the manner of Flycatchers, hovering among the cedars and myrtles with hanging wings, and only rest when satisfied with gleaned food. In spring they are still more timid, busy, and restless. Of their nest we are wholly ignorant. When approached, or while feeding, they only utter a feeble, plaintive *tship* of alarm. This beautiful species arrives here about the 7th or 8th of May, and now chiefly frequents the orchards, uttering, at short intervals, in the morning, a sweet and varied, rather plaintive warble, resembling, in part, the song of the Summer Yellow-bird, but much more the farewell, solitary, autumnal notes of the Robin Red-breast of Europe. The tones, at times, are also so ventriloqual and variable in elevation, that it is not always easy to ascertain the spot from whence they proceed. While thus engaged in quest of small caterpillars, it seems almost insensible to obtrusion, and familiarly searches for its prey, however near we may approach.

The Myrtle-bird is from 5 to 6 inches long, and 8 to 9 inches in alar extent. This difference in the size of individuals is very considerable. Above, a fine slate-color, the feathers centered with black; crown, sides of the breast, and rump, rich lemon-yellow; the wings and tail black, the former crossed with 2 bands of white, the 3 exterior feathers of the latter spotted with white; cheeks and front black; chin, line over and under the eye, white. Breast cinereous, with black spots extending also under the wings; belly and vent white, the latter spotted with black. Bill and legs black. The *female* with fainter colors, and with a brownish tinge. — The principal distinction between the spring and autumnal plumage, besides the clearness of the yellow crown, is the blackness of the cheeks. The plumage of the spring birds is very obviously worn, so that the brown edges of the feathers have nearly disappeared; even the ends of the quills are completely rounded. This effect might naturally be

expected, from the continual brushing of their feathers among the junipers and myrtles, in quest of the berries on which they feed.

YELLOW RED-POLL WARBLER.

(*Sylvia petechia*, LATH. WILSON, iv. p. 19. pl. 28. fig. 4. *S. palmarum*, BONAP. (not of LATHAM), Am. Orn. 2. pl. 10. fig. 2. [adult male]. Philad. Museum, No. 7124.)

SP. CHARACT. — Yellow-olive, streaked with dusky; beneath and line over the eye yellow; crown and spots of the breast bright bay; wings and tail blackish, edged with olive. — *Female*, destitute of the rufous crown.

THIS species, in small numbers, arrives in the Middle and Northern States in the month of April; some also probably proceed as far as Labrador. While here, like many other transient passengers of the family, they appear extremely busy in quest of their restless insect prey. They frequent low, swampy thickets, are rare, and their few feeble notes are said scarcely to deserve the name of a song. These stragglers remain all summer in Pennsylvania, but the nest is unknown. They depart in September, or early in October, and some probably winter in the southernmost States, as they were met with, in February, by Wilson, near Savannah. This is a different species from the Palm Warbler, which probably does not exist in the United States.

This bird appears yet to be very little known. Penant has most strangely blended up its description with that of the Ruby-crowned Wren! his supposed female being precisely that bird.

The length of this species is about $5\frac{1}{2}$ inches, and the alar extent 8 to 9. The breast streaked with bay; crown of the head, from the base of the bill, the same color. Rump yellow; tail coverts greenish yellow; the wings dark blackish brown, edged with yellow olive; cov-

erts and tertials edged with pale brown (in the spring when the feathers are worn). Tail a little forked, and of the color of the wings; the 2 lateral feathers with a large spot of pure white near to their tips. Legs and bill dusky brown, the latter shorter and more slender than in *S. æstiva*. — In the *young male* the bay of the crown is edged, and the breast spotted with olive.



SUMMER YELLOW-BIRD OR WARBLER.

(*Sylvia æstiva*, LATH. AUDUBON, pl. 95. Orn. Biog. i. p. 476. *S. citrinella* WILSON, ii. p. 111. pl. 15. fig. 5. [male.] BUFFON, pl. enl. 58. No. 1. [female.] Phil. Museum, No. 7266.)

SP. CHARACT. — Greenish-yellow; crown and beneath bright yellow; breast and sides streaked with rufous orange; lateral tail-feathers interiorly yellow. — *Female* with the breast unspotted. — *Young* greenish, inclining to olive above; and with the throat nearly white.

THIS very common and brilliant summer species is found in all parts of the American continent from the confines of the arctic circle to Florida, where it spends the mild season. About the middle of March, I already heard their song amidst the early blooming thickets and

leafy woods of the Altamaha ; but they do not arrive in Pennsylvania and this part of New England before the 1st of May. About the close of August in the Northern, and by the middle of September in the central states of the Union, or as soon as their second brood are capable of joining the migrating host, they disappear, probably in the twilight, and wing their way by easy stages to their tropical destination, passing through Louisiana in October, and appearing, at length, about Vera Cruz, from whence they spread their numerous host through tropical America to Guiana, Cayenne, St. Domingo, and other of the larger contiguous islands of the West Indies.

This is a very lively, unsuspicious, and almost familiar little bird, and its bright golden color renders it very conspicuous, as in pursuit of flitting insects, it pries and darts among the blooming shrubs and orchards. It is particularly attached to willow trees and other kinds in moist and shady situations, that afford this and other species a variety of small larvæ and caterpillars, on which they delight to feed. While incessantly and busily employed, it occasionally mounts the twig, and with a loud, shrill, and almost piercing voice, it earnestly utters, at short and irregular intervals, 'tsh' 'tsh' 'tsh' 'tsh' 'tshaïa, or *tshe tshe tsh tshayia tshe tshe*, this last phrase, rather plaintive and interrogatory, as if expecting the recognition of its mate. Sometimes, but particularly after the commencement of incubation, a more extended and pleasingly modulated song is heard, as *se te te tshÿtshoo*, or *tsh' tsh' tsh' tsheetshoo*, 'tshe 'tshe 'tshe 'tshoo 'pectshee, and 'tshe 'tshe 'tshe 'tshe 'tshaïa 'tship ò wāy, the termination tender, plaintive, and solicitous. I have heard this note also sometimes varied to 'soit 'soit 'soit 'soit 'tship ā wee. The female sometimes sings nearly as well as the male, particularly about the time she is engaged in fabri-

cating her nest. Although their song may be heard, less vigorously, to the month of August, yet they do not here appear to raise more than a single brood.

The nest, in Massachusetts, is commonly fixed in the forks of a barberry bush, close shrub, or sapling, a few feet from the ground; at other times, I have known the nest placed upon the horizontal branch of a horn-beam, more than 15 feet from the ground, or even 50 feet high in the forks of a thick sugar-maple or orchard tree. These lofty situations are, however, extraordinary; and the little architects, in instances of this kind, sometimes fail of giving the usual security to their habitation. The nest is extremely neat and durable; the exterior is formed of layers of *Asclepias* or silk-weed lint, glutinously though slightly attached to the supporting twigs, mixed with some slender strips of fine bark and pine leaves, and thickly bedded with the down of willows, the nankeen-wool of the Virginian cotton-grass,* the down of fern stalks, the hair from the downy seeds of the button-wood (*Platanus*), or the pappus of compound flowers; and then lined either with fine-bent grass (*Agrostis*), or down, and horse-hair, and rarely with a few accidental feathers. Circumstances sometimes require a variation from the usual habits of the species. In a garden in Roxbury, in the vicinity of Boston, I saw a nest built in a currant-bush, in a small garden very near to the house; and, as the branch did not present the proper site of security, a large floor of dry grass and weeds was first made betwixt it and a contiguous board fence; in the midst of this mass of extraneous materials, the small nest was excavated, then lined with a considerable quantity of white horse-hair, and finished with an interior bed of soft cow-hair. The season proving wet and stormy, the nest in this

**Eriophorum virginicum*.

novel situation fell over, but was carried with the young to a safe situation near the piazza of the house, where the parents now fed and reared their brood. In an apple-tree, in another garden, a nest of this bird was made chiefly, to the lining, of loose white cotton strings, which had been used for training up some raspberry bushes, and looked as white and conspicuous as a snow-ball. Sometimes they condescend to the familiarity of picking up the sweepings of the seamstress; such as thread, yarn, sewing-silk, fine shreds of cotton stockings, and bits of lace and calico; and it is not uncommon to observe hasty disputes between our little architects and the Baltimore birds, as they sometimes seize and tug upon the loose or flowing ends and strings of the unfinished nest, to the great annoyance of the legitimate operators. The labor of forming the nest seems often wholly to devolve on the female. On the 10th of May, I observed one of these industrious matrons busily engaged with her fabric in a low barberry bush, and by the evening of the second day, the whole was completed to the lining, which was made, at length, of hair and willow down, of which she collected and carried mouthfuls so large that she often appeared almost like a mass of flying cotton, and far exceeded in industry her active neighbour, the Baltimore, who was also engaged in collecting the same materials. Notwithstanding this industry, the completion of the nest, with this and other small birds, is sometimes strangely protracted or not immediately required. Yet, occasionally, I have found the eggs of this species improvidently laid on the ground. They are usually about 4 or 5, of a dull white, thickly sprinkled near the great end with various sized specks of pale brown. It is amusing to observe the sagacity of this little bird in disposing of the eggs of the vagrant and parasitic Cow Troopial.

The egg, deposited before the laying of the rightful tenant, too large for ejectment, is ingeniously incarcerated in the bottom of the nest, and a new lining placed above it, so that it is never hatched to prove the dragon of the brood. Two instances of this kind occurred to the observation of my friend, Mr. Charles Pickering; and last summer I obtained a nest with the adventitious egg about two thirds buried, the upper edge only being visible, so that in many instances, it is probable, that this species escapes from the unpleasant imposition of becoming a nurse to the sable orphan of the Cow-bird. She, however, acts faithfully the part of a foster-parent when the egg is laid after her own.

The Summer Yellow Bird, to attract attention from its nest, when sitting, or when the nest contains young, sometimes feigns lameness, hanging its tail and head, and fluttering feebly along, in the path of the spectator; at other times, when certain that the intrusion had proved harmless, the bird would only go off a few feet, utter a feeble complaint, or remain wholly silent, and almost instantly resume her seat. The male, as in many other species of the genus precedes a little the arrival of his mate. Towards the latter end of summer the young and old feed much on juicy fruits, as mulberries, cornel berries, and other kinds.

This species is about 5 inches long, and 7 in alar stretch. Above, greenish yellow. Crown, front, and below, golden yellow; breast and sides spotted with rufous orange. Wings and tail deep brown, edged with yellow. Tail emarginated. Bill and eye-lids light greyish-blue. Legs pale.—*Female* generally without streaks on the breast. The *young*, at first, olive, with but little yellow below.

CHILDREN'S WARBLER.

(*Sylvia childreni*, AUDUBON, pl. 35. Orn. Biog. vol. i. p. 180.)

SP. CHARACTER. — Olive green, beneath and front golden yellow; wings and tail dusky; tail with the inner vanes of the lateral feathers whitish yellow. — *Female*, beneath, yellowish white.

THIS new species appears to be nearly allied to *S. æstiva*; but the male seems to be destitute of spots on the breast. The author discovered this species near the town of Jackson, in Louisiana. The nest was attached by the sides to two twigs of the herbaceous fœtid Cassia,* and was formed of the dry bark of the same plant, mixed with silky substances. The lining consisted of goat's or deer's hair.

A little larger than the preceding species. Wings edged with yellowish. Tail, except the two central feathers, whitish yellow on the inner webs. Legs yellowish flesh-color. Bill dusky, lower mandible yellowish white. Iris hazel. Tail wedge-shaped.

BLACK AND YELLOW OR SPOTTED WARBLER.

(*Sylvia maculosa*, LATH. Synops. ii. p. 481. No. 104. *S. magnolia*, WILSON, iii. p. 63. pl. 23. fig. 2. [male.] Phil. Museum, No. 7783.)

SP. CHARACTER. — Crown ash; rump and beneath bright yellow; breast spotted with black; wings with 2 white bars; tail black; the lateral feathers white on the middle of their inner vanes. — *Female* with the breast whitish and the colors duller.

THIS rare and beautiful species is occasionally seen in very small numbers, in the Southern, Middle, and Northern States, in the spring season, on its way to its

* *Cassia Occidentalis*.

northern breeding-places. In Massachusetts, I have seen it in this vicinity about the middle of May. Its return to the South is probably made through the western interior, a route so generally travelled by most of our birds of passage at this season, in consequence of which they are not met with, or but very rarely, in the Atlantic States in the autumn. In this season they have been seen at sea off the island of Jamaica, and have been met with also in Hispaniola, whither they retire to pass the winter. Like all the rest of the genus, stimulated by the unquiet propensity to migrate, they pass only a few days with us, and appear perpetually employed in pursuing or searching out their active insect prey or larvæ; and, while thus engaged, utter only a few chirping notes. According to Mr. Hutchins, around Hudson's Bay, it builds in the willows a nest composed of grass and feathers, lays 4 eggs, and hatches its young in July. It has a shrill song, more than usually protracted on the approach of wet weather, so that the Indians bestow upon it the name of *Rain Bird*.

The length of this species is about 5 inches; alar extent $7\frac{1}{2}$. Front, lores, and behind the ear black, a white line over the eye, and a small touch of the same immediately under. The back nearly all black; rump yellow; tail coverts deep black. Below rich yellow, spotted from the throat downwards with black; vent white; tail emarginate. Wings black, crossed with 2 broad bars of white. Crown fine ash. Legs brown. Bill black.

CAPE MAY WARBLER.

(*Sylvia maritima*, WILSON, vi. p. 99. pl. 54. fig. 3. [male.] BONAP.
Am. Orn. i. p. 32. pl. 3. fig. 3. [female?])

SP. CHARACT. — Yellow-olive spotted with black; crown and line through the eyes black; cheeks and beneath yellow; the breast spotted with black; a broad white band on each wing; 3 lateral tail-feathers with a spot of white. — *Female* dull olive; beneath whitish, spotted with dusky.

THIS very rare Warbler has only been seen near the swamps of Cape May, in New Jersey, and near Philadelphia, about the middle of May, probably as a straggler on its way to some northern breeding-place. Its notes and further history are yet unknown.

The length of this bird is $5\frac{1}{2}$ inches; the alar extent $8\frac{1}{2}$. Line from the nostril over the eye, chin, and sides of the neck, rich yellow; the feathers round the ear orange. Wings dusky, edged with dark olive yellow. Below bright yellow; breast and sides under the wings, spotted with black; belly and vent yellowish white. Tail dusky black and forked, edged with yellow olive. The yellow on the throat and sides reaches nearly round it.

CANADA WARBLER.

(*Sylvia pardalina*, BONAP. *Muscicapa canadensis*, L. WILSON, iii. p. 100. pl. 26. fig. 2. [male.] Phil. Museum, No. 6969.)

SP. CHARACT.—Cinereous-brown; crown ash, spotted with black; beneath and line over the eyes yellow; breast with a crescent of black spots; tail immaculate.

THIS is a very rare summer species in the Atlantic States, appearing singly, and for a few days only, on their passage north or south in the spring and autumn. They probably breed in Canada or Labrador, and are more abundant in the mountainous interior, the route by which they principally migrate. They winter probably in the tropical regions; are then silent, and, like the rest of their tribe, very active in darting through the branches after insects.

This species is only $4\frac{1}{2}$ inches long, and 8 in alar extent. Front black; line from the nostril to and around the eye yellow; below the eye a stripe of black, descending along the sides of the throat, which with the breast and belly is bright yellow. A broad rounding band

of black on the breast composed of black spots; vent white. Bill, the upper mandible dusky, the lower flesh-color; legs and feet the same. Eye hazel.

HOODED OR MITRED WARBLER.

(*Sylvia mitrata*, LATHAM. *Muscicapa cucullata*, WILSON, iii. p. 101. pl. 26. fig. 3. [male.] Phil. Museum, No. 7062.)

SP. CHARACT. — Yellow-olive; head, neck, and throat black; forehead, cheeks, and body beneath, yellow; 3 lateral tail-feathers white on one half of their inner webs.

THIS beautiful and singularly marked summer species, common in the South, is rarely seen to the north of the state of Maryland. It retires to Mexico or the West Indies probably to pass the winter. At Savannah, in Georgia, it arrives from the south about the 20th of March, according to Wilson. It is partial to low and shady situations darkened with underwood, is frequent among the cane-brakes of Tennessee and Mississippi, and is exceedingly active, and almost perpetually engaged in the pursuit of winged insects. While thus employed, it now and then utters three loud, and not unmusical, very lively notes, resembling the words, *twee twee 'twittshe*. In its simple song and general habits it therefore much resembles the Summer Yellow Bird. Its neat and compact nest is generally fixed in the fork of a small bush, formed outwardly of moss and flax, lined with hair, and sometimes feathers; the eggs, about 5, are greyish-white, with reddish spots towards the great end.

This species is about $5\frac{1}{2}$ inches long, and 8 in alar extent. The forehead, cheeks, and chin yellow, surrounded with a hood of black that covers the crown, hind-head, and part of the neck, and descends rounding over the breast; all the rest of the lower parts yellow. Above, yellow-olive. Bill black. Legs flesh-colored.

Tail emarginate, exteriorly edged with olive-yellow. — In the *female*, the throat and breast are yellow, only slightly tinged with blackish; the black does not reach so far down the upper part of the neck, and is less deep. The *young* ? have little or no black on the head or neck above.

YELLOW-THROATED GREY WARBLER.

(*Sylvia pensilis*, LATH. AUDUBON, pl. 85. Orn. Biog. i. p. 434.
S. flavicollis, WILSON, ii. p. 64. pl. 12. fig. 6.)

SP. CHARACT. — Bluish-grey; frontlet, ear-feathers, lores, and a space above the eyes, black; throat and breast yellow; belly and line over the eye white; sides spotted with black; wings and tail black, varied with white. — *Female* duller colored; the *young* without the yellow and black marks.

THIS elegant and remarkable species resides in the West Indies, and also migrates in considerable numbers into the southern parts of the United States, particularly Louisiana, from whence indeed they only absent themselves in the two inclement months of December and January. They are seen in February in Georgia, but very rarely venture as far north as Pennsylvania. Their song is pretty loud and agreeable, according to Wilson, resembling somewhat the notes of the Indigo bird. In the tropical countries it inhabits, this delicate music is continued nearly throughout the year, and participated also by the female, though possessed of inferior vocal powers. It appears to have many of the habits of the Creeping Warbler (*S. varia*), running spirally around the trunks of the Pine trees, on which it alights, and ascending or descending in the active search of its insect fare.

The sagacity displayed by this bird in the construction and situation of its nest is very remarkable. They are

occasionally found in West Florida, and perhaps may also occur in South Carolina, where the bird is known likewise to reside. This curious fabric is suspended to a kind of ropes, which hang from tree to tree, usually depending from branches that bend over rivers or ravines. The nest itself is made of dry blades of grass, the ribs of leaves, and slender root-fibres, the whole interwoven together with great art; it is also fastened to, or rather worked into, the pendent strings made of the tough silky fibres of some species of *Echites*, or other plant of that family. It is, in fact, a small circular bed, so thick and compact as to exclude the rain, left to rock in the wind without sustaining, or being accessible to any injury. The more securely to defend this precious habitation from the attacks of numerous enemies, the opening or entrance is neither made on the top nor the side, but at the bottom; nor is the access direct, for after passing the vestibule, it is necessary to go over a kind of partition, and through another aperture, before it descends into the guarded abode of its eggs and young. This interior lodgment is round and soft, being lined with a kind of lichen, or the silky down of plants.*

This species is about $5\frac{1}{2}$ inches in length, and 8 in alar extent. Tail emarginate, black, edged with grey; wings black, the first row of wing-coverts edged and tipped with white, the second row almost wholly white. Line between the eye and nostril, whole throat and middle of the breast, yellow; the lower eye-lid, line over the eye, and spot behind the ear-feathers, as well as the whole lower parts, pure white; the yellow on the throat bordered with touches of black, which also extend on the sides under the wings. Bill black. Legs yellowish-brown.

* A very different nest, resembling that of the Wood Pewee, is attributed to this species by Audubon, who also describes the eggs as white, with a few purple dots at the large end.



BLACK-THROATED GREEN WARBLER.

(*Sylvia virens*, LATHAM. WILSON, ii. p. 137. pl. 17. fig. 3. Green Warbler, PENNANT'S Arct. Zoölogy, vol. ii. No. 297.)

SP. CHARACT.—Yellowish-green ; front, cheeks, sides of the neck, and line over the eye, yellow ; beneath whitish ; chin and throat to the breast black ; 2 white bars on the wings, which, as well as the tail, are dusky ; the 3 lateral tail-feathers marked with white. — *Female* with the chin yellow, and the throat blackish, tinged with yellow.

THIS rather rare species arrives from its tropical winter-quarters in Pennsylvania towards the close of April or beginning of May. About the 12th of the latter month it is seen in this part of Massachusetts ; but never more than a single pair are seen together. At this season, a silent individual may be occasionally observed, for an hour at a time, carefully and actively searching for small caterpillars and winged insects, amidst the white blossoms of the shady apple tree, and so inoffensive and unsuspecting is the little warbler, that he pursues, without alarm, his busy occupation, as the spectator, within a few feet of him, watches at the foot of the tree. While thus harm-

lessly employed, he sometimes encounters the capricious malice of the larger birds, and the cowardly Chipping Sparrow, although itself a pigmy, sometimes insultingly chases this little stranger from his silent retreat and necessary employment. Early in October they are seen in small numbers roving restlessly through the forest, preparatory to their departure for the South.

Though the greater part of the species probably proceed farther north to rear their young, a few spend the summer in the Middle and Northern States; but, from their timorous and retiring habits, it is not easy to trace out their retreats at the period of breeding. Last summer (1830), however, on the 8th of June, I was so fortunate as to find a nest of this species in a perfectly solitary situation, on the Blue Hills of Milton. The female was now sitting, and about to hatch. The nest was in a low, thick, and stunted Virginia juniper. When I approached near to the nest, the female stood motionless on its edge, and peeped down in such a manner that I imagined her to be a young bird; she then darted directly to the earth and ran, but when, deceived, I sought her on the ground, she had very expertly disappeared; and I now found the nest to contain 4 roundish eggs, white, inclining to flesh-color, variegated, more particularly at the great end, with pale, purplish points of various sizes, interspersed with other large spots of brown and blackish. The nest was formed of circularly entwined fine strips of the inner bark of the juniper, and the tough white fibrous bark of some other plant, then bedded with soft feathers of the Robin, and lined with a few horse-hairs, and some slender tops of bent-grass (*Agrostis*). The male was singing his simple chant, at the distance of a quarter of a mile from the nest, and was now nearly in the same dark wood of tall oaks and white pines in which

I had first heard him a fortnight before. This simple, rather drawling, and somewhat plaintive song, uttered at short intervals, resembled the syllables, '*te dé terĩtská*, sometimes *te derisca*, pronounced pretty loud and slow, and the tones proceeded from high to low. In the intervals he was perpetually busied in catching small cynips, and other kinds of flies, keeping up a smart snapping of his bill, almost similar to the noise made by knocking pebbles together. This quaint and indolent ditty I have often heard before in the dark and solitary woods of West Pennsylvania; and here, as there, it affords an agreeable relief in the dreary silence and gloom of the thick forest. This note is very much like the call of the Chicadee, and at times both are heard amidst the reigning silence of the summer noon. In the whole district of this extensive hill or mountain, in Milton, there appeared to exist no other pair of these lonely warblers but the present. Another pair, however, had probably a nest in the vicinity of the woods of Mount Auburn in Cambridge; and in the spring of the present year (1831) several pair of these birds were seen for a transient period.

This species is about 5 inches in length, and $7\frac{1}{2}$ to 8 in alar extent. Chin and throat, to the breast, black; sides under the wings spotted with the same; breast and belly white, tinged with very pale yellow; vent white. Wings dusky, with 2 white bars. The 3 exterior tail-feathers spotted on their inner webs with white; the spots on the 2 outer tail-feathers very extensive. Bill black. Legs and feet brownish-yellow.

Nearly related to the present species, apparently, is the *Yellow-Fronted Warbler* of LATHAM and PENNANT, said to be a spring passage bird through Pennsylvania.—In this the forehead and crown are of a bright yellow; from the bill extends through the eyes a band of black, bounded on each side with white. The chin, throat, and lower side of the neck are black. Breast and belly white. The upper part of the neck, back, rump, and lesser coverts of the wings

are of a light bluish-grey, the greater coverts and lower order of lesser bright yellow, forming a large spot on each wing. Primaries and tail deep ash-color; the inner webs of the exterior tail-feathers spotted with white.

BLACKBURNIAN WARBLER.

(*Sylvia Blackburnia*, LATH. WILSON, iii. p. 64. pl. 23. fig. 3. Phil. Museum, No. 7060.)

SP. CHARACT.—The head striped with black and orange; throat and breast orange, bounded by black spots; wings with a large white space; the 3 lateral tail-feathers white on the inner web. — *Female* yellow, without orange, and the black spots fewer.

THIS is one of the rarest and most beautiful species of the genus, which, from the 1st to the 15th of May, or sometimes later, pays a transient visit to the Middle and Northern States, on its way to its remote boreal place of retirement for the breeding season. It is still more rarely seen in the autumn, about the month of September, on its passage to tropical America, where it winters, as may be presumed from its occurrence late in autumn about Vera Cruz, according to Mr. Bullock. Little more is known of it than its external appearance. It is an exceedingly nimble insect-hunter, keeping towards the tops of trees, scarcely uttering even an audible chirp, and at this season, no song, as far as is yet known; but its habits at the period of incubation are wholly unknown.

The Blackburnian Warbler is only about $4\frac{1}{2}$ inches long, and about 7 in alar extent. A stripe of rich orange passes over the eye, and there is a small touch of the same beneath it; the throat and breast almost approach the fiery color of red-lead, bounded by spots and streaks of black; the belly dull yellow, also streaked with black; vent white. The back black, skirted with ash; wings the same, marked with a large lateral patch of white; tail a little forked. Cheeks black. Bill and legs brown.

ORANGE-THROATED WARBLER.

(*Sylvia auricollis*, LATHAM, iv. p. 481. No. 103. PENNANT, Arct. Zoöl. No. 304.)

SP. CHARACTER. — Olive-green; rump and tail-coverts cinereous; primaries brown; throat and under side of the body, orange; vent white. — *Female* with the colors paler.

THIS is another rare and transient species, which proceeds from its winter-quarters in Mexico and the Southern States as far as Canada, in summer, to breed. About the 23d of March, I saw numbers of these birds in the lower parts of Georgia, feeding partly on berries, and on insects, in the pursuit of which they were busily engaged. I have, very rarely, seen an individual in this part of Massachusetts towards the close of spring; and it appears that Brisson received it from Canada.

Above olive-green, except the lower part of the back, rump, and greater wing-coverts, which are cinereous; primaries brown, edged with dark ash, on the inner webs with dirty white. Beneath orange, except the vent, which is white.

CHESNUT-SIDED WARBLER.

(*Sylvia icterocephala*, LATH. AUDUBON, pl. 59. Orn. Biog. i. p. 306. *S. pennsylvanica*, WILSON, ii. p. 99. pl. 14. fig. 5. Phil. Museum, No. 7006.)

SP. CHARACTER. — Crown yellow; under side of the body white; sides from the throat chesnut; wings with 2 pale yellow bands; the 3 lateral tail-feathers marked with white. — *Female* with the crown and chesnut sides paler.

THIS rare and beautiful *Sylvia*, which probably winters in tropical America, appears in the Middle and Northern States early in May on its way north to breed; they are also seen in the spring in Canada and around Hudson's Bay. A few remain, no doubt, to rear their young in secluded mountainous situations, in the North-

ern States ; as, on the 22d of May (1830), a pair appeared to have fixed on their summer abode, near the summit of the Blue Hills of Milton. The note of the male was very similar to that of the Summer Yellow Bird, being only a little louder, and less whistling ; it resembles *'tsh 'tsh 'tsh 'tshyia*, given at about an interval of half a minute, and answered by his mate at some distance, near which, it is probable, there was a nest. He appeared to be no way suspicious of our approach ; his restlessness was subdued, and he quietly sat near the same low bushes, amusing himself and his consort for an hour at a time, with the display of his lively and simple ditty. On their first arrival, previous to pairing, they are like the rest of the genus, generally restless, and intently engaged in the chase of insects amidst the blossoms and tender leaves ; they likewise pursue common and green bottle flies with avidity and success. On the 27th of June (1831) I observed a pair selecting food for their young, with their usual address and activity, by the margin of a bushy and secluded swamp on the west side of Fresh Pond, in this vicinity ; but I had not the good fortune to discover the nest. I have, however, since, I believe, discovered the nest of this bird, in a hazel copse in a wood in Acton, in this state. It is fixed in the forked twigs of a hazel about breast high. The fabric is rather light and airy, being made externally of a few coarse blades and stalks of dead grass, then filled in with finer blades of the same, the whole matted and tied with caterpillars' silk, and lined with very slender strips of brown bark and similar white pine leaves. It appeared to have been forsaken before its completion, and the eggs I have never seen.

Length from 5 to 5½ inches, alar extent about 8. The front, line over the eye, and ear-feathers white ; crown brilliant lemon yellow ;

a triangular patch of black beneath the eye and connected with the lores; hind-head grey and black; feathers of the back and rump black, edged with greenish yellow. Wings dusky, the primaries edged with whitish; the 1st and 2d row of coverts broadly tipped with pale yellow; the secondaries edged with greenish yellow. Tail forked, dusky exteriorly, edged with ash or with greenish-grey. Sides from the black beneath the eye to the thighs, furnished with a broad stripe of bright chesnut, the rest of the parts below pure white. Legs and feet dusky. Bill black. Iris hazel.

BAY-BREASTED WARBLER.

(*Sylvia castanea*, WILSON, ii, p. 97. pl. 14. fig. 4. AUDUBON, pl. 69. Orn. Biog. i. p. 358. Phil. Museum, No. 7311.)

SP. CHARACT. — Forehead and cheeks black; crown, throat, and sides under the wings, bay; the wings with 2 white bars; 3 lateral tail-feathers marked with white. — The *female* with less and paler bay on the breast, and less black on the head.

THIS is a still rarer and more transient visitor than the last. It arrives in Pennsylvania from the South some time in April, or about the beginning of May, and towards the 12th or 15th of the same month it visits Massachusetts, but seldom stays more than a week or ten ten days, and is very rarely seen on its return in autumn. Audubon once observed these birds in Louisiana late in June, so that they probably sometimes breed in very secluded places, without regularly proceeding to the Northern regions. It is an active insect-hunter, and keeps much towards the tops of the highest trees, where it darts about with great activity and hangs from the twigs with fluttering wings. One of these birds, which was wounded in the wing, soon became reconciled to confinement, and greedily caught at and devoured the flies which I offered him; but from the extent of the injury, he did not long survive. In habits and manners, as well as markings, this species greatly resembles the preceding.

Its length is about 5 inches or a little more ; the alar extent 11. The crown a very bright bay. Beneath, except the sides, ochreous white ; hind-head and back streaked with black on a greyish buff ground. Wings brownish-black with 2 bars of white. Tail forked, brownish-black, edged with ash. Behind the eye is a broad oblong spot of yellowish-white, inclining to buff. Legs dusky. Bill black. Iris hazel.

BLACK-POLL WARBLER.

(*Sylvia striata*, LATH. WILSON, iv. p. 40. pl. 30. fig. 3. [male] ; and vi. p. 101. pl. 54. fig. 3. [female.] Phil. Museum, No. 7054.)

SP. CHARACT. — Crown black ; cheeks and beneath white ; wings with 2 white bands, the tail blackish ; 2 or 3 lateral tail-feathers marked internally with white. — *Female* and *young* dull yellowish-olive, streaked with black and grey ; beneath white ; cheeks and sides of the breast tinged with yellow.

THIS rather common and well marked species is observed to arrive in Pennsylvania from the South about the 20th of April, but in Massachusetts hardly before the middle of May ; it returns early in September, and appears to feed wholly on insects. In the Middle States it is confined chiefly to the woods, where, in the summits of the tallest trees, it is seen in busy pursuit of its favorite prey. On its first arrival it keeps usually in the tops of the maples, darting about amidst the blossoms. As the woods become clothed with leaves, it may be found pretty generally as a summer resident ; it often also seeks the banks of creeks and swamps, in which situations it probably passes the breeding season, but its nest is yet unknown. In this vicinity they are sometimes familiar visitors in the lowest orchard-trees, where they feed on canker-worms and other small caterpillars, as well as flies of different kinds, &c. At this time, towards the month of June, it is no longer a restless wanderer, but having fixed upon its station for the summer, it now begins, in a humble way, to display its musical talents in the cherished

and constant company of its faithful mate. This note, uttered at intervals of half a minute, is like the sound of *tsh' tsh tsh tshé tshé*, from low to high, but altogether so shrill and slender as to sound almost like the faint filing of a saw. This species extends its migrations to Newfoundland according to Pennant. Its nest, like that of the following species, to which it is much allied, will probably be found on the ground, or in the hollow of a decayed tree.

The Black-Poll Warbler is $5\frac{1}{2}$ inches long, and $8\frac{1}{2}$ in alar extent. The crown and hind-head is black (in the male), the latter bounded behind by greyish white. Cheeks white; from each side of the lower mandible runs a chain of small black spots becoming larger on the sides; primaries black, edged with greenish yellow. Back ash, a little inclining to olive, and largely spotted with black. Tail black, edged with ash; vent white. Bill black above, yellowish white below. Iris hazel. Legs and feet yellow.

BLACK AND WHITE WARBLER, OR CREEPER.

(*Sylvia varia*, LATH. AUDUBON, pl. 90. Orn. Biog. i. p. 452. *Certhia maculata*, WILSON, iii. p. 23. pl. 19. fig. 3. Phil. Museum, No. 7092.)

SP. CHARACT. — Varied with black and white; the crown striped with black; belly pure white. — *Male*, with the throat black. — *Female* and *young*, with the throat greyish white.

THIS remarkable bird, allied to the Creepers, and of which Vieillot forms a distinct genus,* is another rather common summer resident in most parts of the United States, and probably migrates pretty far to the North. It arrives in Louisiana by the middle of February, visits Pennsylvania about the second week in April, and a week later appears in the woods of New England, protracting its stay in those countries till the beginning of October, and lingering on the southern limits of the

* *Mniotilta*.

Union a month later, so that it does not appear to be much affected by the commencement of frost, and probably, at this season, occasionally feeds on berries. As they are observed round Vera Cruz towards the commencement of winter, and are described as inhabiting the West India islands, it is probable they wholly pass the extremity of the winter beyond the southern boundary of the United States.

Like the Creepers and Nuthatches, this species is seldom seen to perch upon the branches of trees, but creeps spirally around the trunk and larger boughs up and down, in quest of insects which alight upon or hide within the crevices of the bark. In this employment they display all the dexterity of the more regular climbers. For this purpose the hind toe is rather stout, and extends backward so as to balance with the rest of the anterior part of the foot, and allow a motion like that of the Creepers, from which genus they are, at the same time, wholly distinct.

At the period of nesting the male scrapes out a little monotonous ditty in recognition of his mate, resembling somewhat the syllables *tē tshe tshe tshe tsh' tsheté*, proceeding from high to low, in a tolerably strong and shrill, but somewhat filing tone. As the season of incubation advances, this note, however, becomes more mellow and warbling, and, though feeble, is very pleasing, bearing at this time some resemblance to that of the Redstart (*Sylvania ruticilla*.) This song is like the ascending call of 'twee 'twee 'twee 'twee 'twee. At the romantic estate of the Cold Spring place in Roxbury, the proprietor, Mr. Newman, pointed out to me the nest of this bird, which, on the 27th of June, contained 4 young about a week old. Other birds of this species, I had seen fledged this year about the 17th of the same month,

and as Wilson remarks the flight of the young in July, we may suppose that they raise 2 broods in the season. The nest was niched in the shelving of a rock, on the surface of the ground, and was externally composed of coarse strips of the inner bark of the hemlock* trees, which overshadowed the situation. With these were mixed soft, dissected, old leaves, and a few stalks of dead grass; the lining was made of a thin layer of black hair. The eggs were 5, whitish, said to be marked at the larger end with brownish red spots. According to Audubon, they nest in Louisiana in some small hole in a tree, and employ dry moss, and a lining of downy substances. The pair fed the young before us with affectionate attention, and did not seem more uneasy at our presence than the common and familiar Summer Yellow-bird. They crept about the trunks of the neighbouring trees, often head downwards like the Sittas, and carried large, smooth caterpillars to their young. This is, in fact, at all times, a familiar, active, and unsuspicious little visitor of the shady gardens and orchards, as well as woods and solitudes.

The length of the variegated Warbler is from 5 to 5½ inches; the alar extent 7½. The crown white, bordered on each side by a band of black, which is again bounded by a line of white passing over each eye; ear-feathers black, as well as the chin and throat; wings the same, with 2 white bars; breast, back, sides, and rump spotted with black and white. Tail and primaries edged with light grey, the coverts black, bordered with white. Belly white. Legs and feet dusky yellow. Bill black above, paler below, rather long and slender, curved, with the upper mandible keeled and compressed at the sides. Tongue long, and fine pointed. — *Female* with the crown wholly black, and without the black auricular feathers; the primaries edged with olive. Legs pale yellow.

* *Abies canadensis*.

PINE WARBLER.

(*Sylvia pinus*, LATH. WILSON, iii. p. 25. pl. 19. fig. 4. Phil. Museum, No. 7312.)

SP. CHARACT.—Bright olive-yellow, tinged with green; beneath yellow, clouded with obscure spots; vent white; wings with 2 whitish bands, and with the tail dusky brown; 2 lateral tail-feathers partly white; lores not black.—*Female* greyish brown, tinged with olive green on the back; beneath pale yellow on the breast.—*Young* dusky olive above, yellowish obscure white below.

THIS common species, to the commencement of winter, inhabits all parts of the United States, and probably extends its northern migrations to the forests of Newfoundland. They arrive in Pennsylvania at the close of March and beginning of April, and soon after are seen in all parts of New England, amidst the pine and juniper forests, in which they principally reside. Both the old and young remain with us till nearly the close of October; stragglers have even been seen in mid-winter in the latitude of 43 degrees.* In winter they rove through the pine forests and barrens of the Southern States in companies of 20 to 50 or more, alighting at times on the trunks of the trees, and attentively searching them for lurking larvæ, but are most frequently employed in capturing the small insects which infest the opening buds of the pine, around which they may be seen perpetually hovering, springing, or creeping, with restless activity; in this way they proceed, from time to time, foraging through the forest; occasionally, also, they alight on the ground in quest of worms and grubs of various kinds, or dart irregularly after hovering flies, almost in the manner of the Flycatchers. In these states they are by far the most numerous of all the Warblers. In the month

* Mr. Charles Pickering.

of March they already began to show indications for pairing, and jealous contests ensued perpetually among the males. The principal body of the species probably remain the year round in the southern forests, where I saw them throughout the winter; great numbers are also bred in the Northern States. In summer their food is the eggs and larvæ of various insects, as well as flies or cynips, caterpillars, coleoptera, and ants. In autumn, the young frequent the gardens, groves, and orchards, feeding likewise on berries of various kinds, as on those of the cornel, wild grape, and five-leaved ivy; at this season they are very fat, and fly and forage in families. They now only utter a shrill and plaintive chip. I have had a male Pine Warbler, domesticated for a short time; he fed gratefully, from the instant he was caught, upon flies, small earth-worms, and minced flesh, and was so tame and artless, as to sit contented on every hand, and scarcely shift himself securely from my feet. On offering him drink he walked directly into the vessel, without using the slightest precaution or exhibiting any trace of fear. His *tship* and manner in all respects were those of the Autumnal Warbler.

The song of the Pine Warbler, though agreeable, amidst the dreary solitude of the boundless forests which he frequents, has but little compass or variety; sometimes it approaches the simplest trill of the Canary, but it is commonly a reverberating, gently rising, or murmuring sound, like *er 'r 'r 'r 'r 'r 'r 'r àh*; or, in the spring, *'twe 'twe 'tw 'tw 'tw 'tw 'tw*, and sometimes like *'tsh 'tsh 'tsh 'tw 'tw 'tw 'tw 'tw*; when hearkened to some time, there is a variation in the cadence, which, though rather feeble at a distance, is not unpleasant, as the little minstrel tunes his pipe during the heat of the summer day, while he flits gently and innocently fearless through the shady

boughs of the pine or cedar in perpetual quest of his untiring prey. This song is commonly heard at a considerable distance from his mate and nest, from whom he often widely strays, according to the success of his precarious pursuit. As the sound of the warble varies from slender to high or low, it is often difficult to discover the retreat of the little busy musician, which appears far or near with the modulation of his almost ventriloquous note. The female likewise tunes, at times, her more slender lay in a wiry tone, almost like that of the *S. varia*, in early spring.

About the 7th of June (1830) I discovered a nest of this species in a Virginian juniper, near Mount Auburn in this vicinity, at the height of about 40 feet from the ground. It was firmly fixed in the upright twigs of a close branch. The nest was thin, but very neat; the principal material was the wiry old stems of the slender knot-weed (*Polygonum tenue*), circularly interlaced, and connected externally with rough linty fibres of some species of *Asclepias*, and blended with caterpillars' webs. The lining was made of a few hogs' bristles, slender root-fibres, a mat of the down of Fern stalks, and one or two feathers of the Robin's breast; a curious medley, but all answering the purpose of warmth and shelter for the expected brood. I saw several of these nests, which had at different times been thrown to the ground, and in all, the wiry grass and general material were the same as in the one now described; and this, of course, is entirely different from that given by Wilson on the authority of Mr. Abbot. The nest, there mentioned, is nothing more than the usual pendulous fabric of the Red-eyed Warbling Flycatcher. The eggs in ours were 4, and, advanced towards hatching, they were white, with a slight tinge of green, very full of small pale brown spots,

somewhat more numerous towards the larger end, where they appear connected or aggregated around a purplish ground. The female made some little complaint, but almost immediately resumed her seat, though 2 of the eggs were taken away; the male made off immediately, and was but seldom seen near the place.

I have a suspicion that Wilson's *Hemlock Warbler*, or the following species, is little more than a variety or accidental state of plumage of the present species.

The length of the Pine Warbler is about $5\frac{1}{2}$ inches; the alar extent $8\frac{1}{2}$ to 9. Above, yellowish-green, inclining to olive; throat, sides, and breast yellow, clouded at the sides near the breast with a few olive spots. Wings and tail dusky brown, the former marked with 2 bars of whitish. Tail forked and edged with ash, the two exterior feathers marked near the tip with a broad spot of white; vent white. Iris hazel. — The *young* in their first plumage, while fed by the old, are above dusky-olive, and below greyish-white, with scarcely any yellow. Before leaving us in the autumn, the male, however, very different from the Autumnal Warbler, acquires below, a yellow, more brilliant than at any other period of its existence.

AUTUMNAL WARBLER.

(*Sylvia autumnalis*, WILSON, iii. p. 65. pl. 23. fig. 4. AUDUBON, pl. 83. Orn. Biog. i. p. 447.)

SP. CHARACT. — Yellow-olive with dusky spots on the back; beneath and cheeks pale yellow; belly white; wings with 2 white bands and as well as the tail dusky; two (rarely 3) of the lateral tail-feathers with a white spot.

THIS plain-looking species enters the southern extremity of the United States early in March, and proceeds to the Northern and Eastern States to breed. Gregarious flocks are seen in the larger solitary forests of Massachusetts as early as the 20th of July, assembled from the neighbouring districts probably, in which they have been reared. They remain with us usually until the

close of October, at which time they are also seen in the Middle States. Their food consists of small insects and berries. Late in the season on a fine autumnal morning, troops of them may be seen in the fields and lanes, sometimes descending to the ground, and busily employed in turning over the new fallen leaves, or perambulating and searching the chinks of the bark of trees, or the holes in the posts of the fence in quest of lurking moths and spiders; and while thus eagerly engaged, they are occasionally molested or driven away by the more legitimate Creepers or Nuthatches, whose jealousy they thus arouse by their invasion. Earlier in the season, they prey on cynips, flies, and more active game, in pursuit of which they may be seen fluttering and darting through the verdant boughs of the forest trees. One of these little visitors which I obtained, by its flying inadvertently into an open chamber, soon became reconciled to confinement, flew vigorously after house flies, and fed greedily on grasshoppers and ivy-berries (*Cissus hederacea*); at length it became so sociable as to court my acquaintance, and eat from my hand. Before I restored it to liberty, its occasional *tweet* attracted several of its social companions to the windows of its prison.

In the autumn, when these birds are most observable, they are destitute of song, and only utter a plaintive call of recognition. The male, however, in the season of incubation has a variety of soft and pleasing notes, but without much of musical compass. Audubon found them breeding in the vicinity of Cayuga lakes, and on the borders of Lake Champlain, in the retirement of the forest: he has likewise observed them at this season in the Great Pine Swamp or forest of Pennsylvania near the Blue Mountains. The nest, according to him, is placed in the slender fork of a low bush, and is made of the thin

bark of vines, and lined with downy vegetable substances. The eggs, 4 to 6, are white, with a reddish tint, and sprinkled with brownish dots at the larger end. As he observed the female sitting so late as the 20th of August, it is probable they raise two broods in the season. It is very nearly allied to the preceding species, and does not differ from it in size.

The Autumnal Warbler is from $5\frac{1}{2}$ to 6 inches long, and about 9 in alar stretch. Individuals vary considerably in their color and markings, some being darker above, and more yellow below. The under mandible and legs are yellowish. Audubon's specimens are unusually pale, as well as Wilson's, but I have seen individuals nearly yellow beneath.

HEMLOCK WARBLER.

(*Sylvia parus*, WILSON, v. p. 114. pl. 44. fig. 3. [male.]

SP. CHARACT. — Yellow-olive with black spots; head above yellow, dotted with black; line over the eye, sides of the neck, and breast, yellow; wings with 2 broad white bands, and with the tail black; the 3 lateral tail-feathers white on their inner vanes.

THIS very rare species was found by Wilson in the spring, in the Great Pine Swamp in Pennsylvania; and appeared to take up its residence in the dark hemlock trees* of that desolate region. It was very lively and active, climbing among the branches and hanging from the twigs like a Titmouse. It darted after flies to a considerable distance, and beginning with the lower branches, hunted with regularity upwards to the summit of the tree, and in this way it proceeded very industriously to forage through the forest till satisfied. At intervals, it stopped an instant to warble out a few low and sweet notes, probably for the recognition or company of its mate, which the discoverer, however, did not see.

* *Abies canadensis*.

The Hemlock Warbler is about $5\frac{1}{2}$ inches long, and 8 in alar extent. Above yellow-olive, spotted with black. The belly of a paler yellow than the breast, and streaked with dusky; round the breast some small streaks of blackish. Wings black, the greater coverts and next superior row broadly tipped with white, forming 2 bars; primaries edged with olive, tertials with white. Tail-coverts black, tipped with olive; the tail slightly forked, and also edged with olive. Bill black above, pale below. Legs and feet dusky yellow. Iris hazel. — The greater quantity of white on the wing and tail, and yellow on the head, are all the essential marks which in any way distinguish this supposed species from the Pine Warbler.

BLUE MOUNTAIN WARBLER.

(*Sylvia tigrina*, LATH. *S. montana*, WILSON, v. p. 113. pl. 44. fig. 2. [male.]

SP. CHARACTER. — Yellow-olive; front, cheeks, chin, and sides of the neck yellow; breast and belly pale yellow, streaked with dusky; wings with 2 white bars, and with the rounded tail black; the 2 lateral tail-feathers white on the inner vanes below the summits.

THIS is another very rare species allied to the Pine Warbler, which visits the United States during Summer. Its habits are much the same as the preceding, and its song a feeble *screeep*, three or four times repeated. Its *rounded* tail is a striking external trait of distinction.

It is $4\frac{3}{4}$ inches long. Vent pale yellow; quills edged with whitish; tail edged with pale olive. Bill dark brown. Legs and feet purple brown. Iris hazel. — *Female* unknown.

BLUE-GREEN WARBLER.

(*Sylvia rara*, WILSON, iii. p. 119. pl. 27. fig. 2. AUDUBON, pl. 49. Orn. Biog. i. p. 258. Phil. Museum, No. 7788.)

SP. CHARACTER. — Pale greenish blue; lores, line over the eye, and all beneath white; wings with 2 white bars, and with the emarginated tail blackish-brown; the 3 lateral tail-feathers with a white patch near the extremities of the inner vanes.

THE first individual of this species known to naturalists, was obtained in the month of April, by Wilson, on the banks of Cumberland river. It was actively gleaning up insects among the high branches of the tallest trees, with all the agility of the Flycatchers. Its note was a feeble chirp. According to Audubon it appears in Louisiana only about the beginning of April, and soon proceeds further to the north or west, though it is rare in Kentucky and Missouri, and unknown entirely in New England. In the spring it has a soft and mellow song, but so feeble as to be audible only for a short distance. Its nest is yet unknown. Although it dwells chiefly in high forest trees, in the autumn it often descends to feed on the berries of neighbouring shrubs. It possesses in some degree the manners of the Vireos, catching insects on the wing with a slight clicking of the bill, and in the same manner, at times, cautiously scanning any approaching individual.

The length is $4\frac{1}{2}$ inches ; and the alar extent 8. Above pale greenish blue, brightest on the front and forehead ; cheeks slightly tinged with greenish ; tail forked, edged with greenish. Bill and legs light blue ; the upper mandible dark brown. Audubon's specimen appears cinereous blue, beneath white, with the tail nearly even and dusky ; primaries edged for a distance below the coverts with pale blue.

PRAIRIE WARBLER.

(*Sylvia discolor*, VIEILL. AUDUBON, pl. 14. Orn. Biog. i. p. 76. *S. minuta*, WILSON, iii. p. 87. pl. 25. fig. 4. Phil. Museum, No. 7784.)

Sp. CHARACT. — Yellow-olive, spotted on the back with bay ; beneath yellow, spotted at the sides with black ; wings with 2? yellow bars, and with the tail dusky ; 3 lateral tail-feathers broadly spotted with white. — *Male* with a black crescent under the eye. — *Female* less spotted, and without the crescent.

THIS species, rare in the Atlantic states, appears to be somewhat more common in the solitary barrens of Kentucky, and the open woods of the Choctaw country ; here they prefer the open plains thinly covered with trees ; and without betraying alarm at the visits of a spectator, leisurely pursue their search for caterpillars and small flies, examining among the leaves or hopping among the branches, and, at times descending pretty near, and familiarly examining the observer, with a confidence and curiosity seldom witnessed in these shy and retiring species. Such was the conduct of a male bird in this vicinity, on the 4th of June, whom I discovered by his slender filing notes, which were uttered every half minute, and like those of the Black Poll Warbler, resembled the suppressed syllables 'tsh 'tsh 'tsh 'tshéa', beginning low and gradually growing louder, having nearly the same slender whistle as that species, though somewhat stronger. The pair were busily engaged collecting flies and larvæ from a clump of young locust trees, in the woods of Mount Auburn, and occasionally they flitted among the Virginian junipers ; the familiar visit of the male appeared for the purpose of discovering my intentions near the nest, about which he was naturally solicitous, though he made his approaches with the appearance of accident. The female was more timid ; yet, while I was still engaged in viewing this little interesting and secluded pair, she, without any precaution or concealment, went directly to the nest, in the forks of a low barberry bush, near by, and when there, she sat and looked at me some time before she removed. She made, however, no pretences to draw me away from the spot, where she was sitting on 4 eggs, of which I took away 2 ; her approaches to the nest were now more cautious, and she came escorted and encouraged by the presence of her mate. Two eggs

were again soon added, and the young brood, I believe, reared without any accident.

The nest was scarcely distinguishable from that of the Summer Yellow Bird, being fixed in a trifid branch (not pensile), and formed of strips of inner red-cedar bark and *Asclepias* fibres, also with some caterpillars' silk, and thickly lined with cud-weed down (*Gnaphalium plantaginicum*) and slender tops of bent-grass (*Agrostis* — sp.) The eggs, 4 or 5, were white, rather sharp at the lesser end, marked with spots of lilac-purple, and others of two different shades of brown rather numerous at the great end, where they appear almost collected together into a circle. The nest, according to Audubon, like that of the Vireos, is pendulous from two twigs, or 3 or 4 blades of grass, and is coated externally with grey lichens. The great difference in the nest, described by Wilson and Audubon, is to me unaccountable; my opportunity for examination, so long continued, seemed to preclude the possibility of error in the investigation; neither can I compare the slender note of this species to any *whirring* sound, which would more nearly approach to the song of the Pine Warbler. They visit this part of Massachusetts about the first or second week in May, and, according to the observations of my friend Mr. Cooper, are seen probably about the same time in the vicinity of New York, in small numbers, and in pairs, and retire to winter in the West Indies, about the middle of September.

The Prairie Warbler is about 5 inches in length, and 7 in alar extent. Above yellow-olive, inclining to green, and considerably brighter on the crown; a few pale bay spots mingled with the olive on the upper part of the back. From the nostrils, over and under the eye, yellow. Lores black. Below rich yellow; vent pale yellow. Wings dusky; coverts edged and tipped with pale yellow; quills and dusky tail edged with yellow olive.

PARTICOLORED WARBLER, OR FINCH
CREEPER.

(*Sylvia americana*, LATH. AUDUBON, pl. 13. Orn. Biog. i. p. 78.
S. pusilla, WILSON, iv. p. 17. pl. 28. fig. 3. Phil. Museum, No.
 6910.)

SP. CHARACT. — Dusky blue; interscapular region brownish yellow olive; throat and lower mandible yellow; belly white; wings with 2 white bars; lateral tail-feathers marked interiorly with white. — *Male* with a black crescent, and with the breast tinged with orange. — *Female* without the crescent and orange color on the breast. — *Young*, brownish-grey; beneath muddy white.

THIS remarkable species visits the Middle and Northern States about the 1st to the 15th of May, and is seen again early in October on its way to the West Indies (St. Domingo and Porto Rico), whither it retires at the approach of winter. A few, according to Catesby, pass the whole year in South Carolina. It is very abundant in the summer in the woods of Kentucky; is active and restless on its first arrival, and frequents the summits of the highest trees, being particularly fond of the small caterpillars and flies of various kinds, which are, in the early part of spring, attracted to the opening blossoms and tender shoots. It also possesses in some degree the creeping and prying habits of the Titmouse, to which genus it was referred by Linnæus and Pennant; it is, however, a true *Sylvia*. Entering the southern extremity of the Union by the first approach of spring, it is now seen searching for its insect food on shrubs and plants in moist places, by the borders of lakes and streams. In this vicinity it is not common; but as it was singing as late as the 22d of May, in the woody solitudes of the Blue Hills of Milton, it must undoubtedly breed there. The nest, according to Audubon, is placed in the fork of

a small twig towards the extremity of the branches, and is formed of lichens and other materials, and lined with downy substances. The eggs, about 4, are white, with a few reddish dots at the larger end. The notes of this species resemble those of the Prairie Warbler in some respects, though sufficiently different; the tones rising from low to high are rather weak and insignificant.

This bird is from $4\frac{1}{2}$ to 5 inches long, and $6\frac{1}{2}$ to 7 in alar extent. Above pale or dusky blue; the head brightest. Wings and tail black, the former crossed with 2 conspicuous white bars and edged with blue. Between the bill and eyes black; above and below the eye a small touch of white. The upper mandible black; the lower as well as the throat and breast bright yellow; the latter deepening about its middle into a brownish orange, and marked on the throat with a small crescent of blackish or dusky. On the edge of the breast, below the shoulder, is a cloud of bay. Belly and vent white. Legs and feet dull yellow.

BLACK-THROATED BLUE WARBLER.

(*Sylvia canadensis*, LATH. WILSON, ii. p 115. pl. 15. fig. 7. Phil. Museum, No. 7222.)

SP. CHARACT.—Slate blue; beneath white; cheeks and throat black; a white spot on the wings; 2 or 3 lateral tail-feathers with white on the inner web.

OF this uncommon species we know very little. It appears only as a transient visitor in the month of April, in the Middle States, and, after staying to feed for a week or ten days, it proceeds to its northern breeding-place in the wilds of Canada, of which we are wholly ignorant. In November, I have observed a few on their return to the South, and, according to Vieillot, they winter in St. Domingo, and other of the larger West India islands.

The length of this species is about 5 inches; and $7\frac{1}{2}$ in alar dimensions. Above wholly of a fine slate color, inclining to azure; the throat, cheeks, and upper part of the breast, and sides under the wings, are

deep black; the wings and tail dusky black; the primaries marked with a spot of white, and edged with olive green. Tail wedge-shaped, edged with dusky blue, the feathers pointed; 2 and sometimes 3 of the external ones with a large white spot. Belly and vent white. Legs and feet dusky yellow. Bill black. — The black of the *female* inclined to dusky ash, or wanting. — The blue feathers of the hind part of the head and back, as well as the dark ones on the flanks, are edged with bright olive green; perhaps a mark of the young bird.

CONNECTICUT WARBLER.

(*Sylvia agilis*, WILSON, v. p. 64. pl. 39. fig 4.)

SP. CHARACT. — Bright yellow-olive; beneath yellow; throat pale ash; wings dusky. — *Female*, with the throat pale buff.

THIS very rare bird is a spring visitor in Pennsylvania, New York, and New England. It appears to frequent low thickets, and is exceedingly active in pursuit of its prey, scarcely remaining a moment in the same place. It probably winters in tropical America.

Length $5\frac{3}{4}$ inches; alar extent 8. Above rich yellow-olive, nearly green; wings dusky-brown, edged with olive. Throat dirty-white or pale ash; upper part of the breast dull greenish-yellow; below pure yellow. Round the eye a narrow ring of yellowish-white. Bill, upper mandible pale brown; the lower whitish. Iris hazel. Legs long and slender, pale flesh-color.

KENTUCKY WARBLER.

(*Sylvia formosa*, WILSON, iii. p. 85. pl. 25. fig. 3. AUDUBON, pl. 38. Orn. Biog. i. p. 196.

SP. CHARACT. — Deep olive-green; beneath and line over the eye golden yellow; crown black, spotted behind with pale ash; lores and space curving down the neck, black. — *Female* without the black under the eye, and nearly destitute of it on the crown, and with the sides under the wings pale green.

THIS beautiful species, first described by Wilson, frequents the dark forests of the southwestern parts of the Union, being particularly abundant in Louisiana, and

not uncommon in Kentucky and Tennessee, and from thence inhabiting throughout the country to the estuaries of the Mississippi. It frequents low, damp woods, and the desolate borders of the lagoons, cane-brakes, and swamps, near the banks of the great rivers. It arrives in Kentucky about the middle of April, but enters the southern extremity of the Union from Mexico by the same time in March, and by the middle of September retires south of the United States. The males are very pugnacious in the pairing season of spring, and utter some loud notes, in threes, resembling the sound of *'tweedle tweedle tweedle*. They attach the nest often to stems of stout weeds, or place it in a tuft of grass. It is made of the dry bark of herbaceous plants, mixed with downy substances, and lined with the cotton of the seed of the wild poplar. The eggs, 4 to 6, are pure white, and sprinkled with specks of reddish. The female begins to sit early in May, and they have usually two broods in the season. They now associate in families, and live in the greatest harmony. The species is scarcely known to the east of North Carolina.

This Warbler is $5\frac{1}{2}$ inches long, and 8 in alar extent. Above deep green, tinged with olive, darkest on the upper part of the back. Tail nearly even, rich olive-green. Legs whitish flesh-color. Upper mandible blackish, the lower flesh-color.



MARYLAND YELLOW-THROAT.

(*Sylvia trichas*, LATH. AUDUBON, pl. 23. Orn. Biog. i. p. 121. *S. marylandica*, WILSON, i. p. 88. pl. 6. fig. 1. [male.] and ii. p. 163. pl. 18. fig. 4. [female.] Phil. Museum, No. 7282.)

SP. CHARACT.—Yellow-olive; beneath yellow; front and wide patch through the eye black, bounded above by whitish-grey; tail cuneiform.—*Female* without black on the face, and beneath dull yellow.

THIS common and familiar species extends its summer migrations from Florida to Nova Scotia, arriving in Pennsylvania towards the middle of April, and in this part of New England about the first week in May. They return to the south in September; a few stragglers of the young, however, may be seen to the first week of October, and though some may remain and winter in the Southern States, it is more probable that the main body retire at this season into the interior of tropical America; as they were seen late in autumn, around Vera Cruz, by the naturalist and traveller Mr. Bullock. Early in the month of March, however, I heard this species singing in the forests of West Florida.

The Maryland Yellow-Throat, with cheerful devotedness to the great object of his summer migration, the attachments and cares of his species, passes his time near some shady rill of water, amidst briars, brambles, alders, and such other shrubbery as grow in low and watery situations. Unambitious to be seen, he seldom ascends above the tops of the underwood, where he dwells busily employed in collecting the insects on which he feeds. After these, like the Wren, he darts into the deepest thicket, and threads his devious way through every opening; he searches around the stems, examines beneath the leaves, and raising himself on his peculiarly pale and slender legs, peeps into each crevice in order to seize by surprise his tiny lurking prey. While thus engaged, his affection to his neighbouring mate is not forgotten, and with a simplicity, agreeable and characteristic, he twitters forth, at short intervals, his *'whittittee 'whittittee 'whittittee*, but his more common song is *'whittitshee 'whittitshee*, or *'wetitshee 'wetitshee weê*; and sometimes I have heard his note like, *'wetitshee wetit shee, 'wit'yu we*. On this last syllable a plaintive sinking of the voice renders the lively, earnest ditty of the active minstrel peculiarly agreeable. Copying apparently from the Cardinal Bird, the song was, in one instance, which came to my notice, *'vitiyu 'vitiyu 'vitiyù*. The whole is likewise often varied and lowered into a slender whisper, or tender reverie of vocal instinct. Sometimes he calls out, *teetshoo, teetshoo*, and *sewaidëdit sewaidëdit sewaiditsewee*, or *sewaididit sewaiditsiwee*, as he busily darts through the blooming and odor-breathing shrubs of the grove or garden, which he examines with minute attention, and sometimes springs perpendicularly after his retreating and discovered prey. He appears by no means shy or suspicious, as long as his nest is unapproached; but for the safety of

that precious treasure, he scolds, laments, and intreats with great anxiety. The species generally nest in the recluse thickets of the forest, or the low bushy meadow, but sometimes they take up their abode in the garden, or the field contiguous to the house ; and, if undisturbed, show a predilection for the place which has afforded security to themselves and their young. They commence their labor of building about the middle of May, fixing the nest on or near the ground, among dry leaves, withered grass, or brush, and choose often for security the most intricate thicket of briars, so that the nest is often sheltered and concealed by projecting weeds and grass. Sometimes a mere tussuck of grass or accidental pile of brush is chosen. It is made of dry sedge-grass (*Carex*), and a few leaves loosely wound together and supported by the weeds or twigs where its rests ; the lining consists entirely of fine bent-grass (*Agrostis*).

The eggs, about 5, are white, inclined to flesh-color, with touches, specks, and small spreading blotches, and sometimes with a few lines of two or three shades of reddish brown, chiefly disposed towards the greater end. I have also seen the eggs a whole size smaller, pure white, with a few small spots only at the greater end. This is perhaps the egg of a different, but allied species. The young leave the nest, here, about the middle of June, and a second brood is sometimes raised in the course of the season. The parents and young now rove about in restless prying troops, and take to the most secluded bushy marshes, where they pass their time, in comparative security, till the arrival of that period of scarcity which warns them to depart. As early as the close of July, the lively song of the male ceases to be heard, and the whole party now forage in silence.

This species is about 5 inches in length, and $6\frac{1}{2}$ to 7 in alar dimensions. Above yellow-olive, inclining to cinereous on the crown. Throat, breast, and vent yellow, fainter on the belly. Wings, and unspotted, *wedge-shaped* tail, dusky brown; the quills of both edged with yellow olive. Bill black above, paler beneath. Legs pale flesh-color and remarkably delicate. Iris dark hazel. — Sometimes male birds occur with the pale grey line over the eye exalted into white as in Buffon's figure. — The *young*, at first, resemble the female, but the male of the season, before his departure in autumn, exhibits the brilliant yellow throat, as well as some appearance of the grey and black, which ornament the sides of the face in the adult.

MOURNING WARBLER.

(*Sylvia philadelphia*, WILSON, ii. p. 101. pl. 14. fig. 6. [female?])

SP. CHARACT. — Dark greenish-olive; head dark grey; a crescent of alternate white and black lines on the breast; belly yellow; tail cuneiform.

WILSON, the discoverer of this curious species, never met with more than a single individual, which, in its habits of frequenting marshy ground, and flitting through low bushes in quest of insects, appears very similar to the preceding species, of which Prince Bonaparte conjectures it to be only an accidental variety. The discoverer, however, also distinguished it more importantly by the *novelty* of its sprightly and pleasant warble; we may therefore perhaps consider it as a solitary straggler from the main body in the western regions of this vast continent. It was shot in the early part of June near Philadelphia.

On the 20th of May (1831) I saw, as I believe, the *male* of this species in the dark shrubbery of the Botanic Garden (in Cambridge.) It possessed all the manners of the preceding species, was equally busy in search of insects in the low bushes, and, at little intervals, warbled out some very pleasant notes, which, though they resem-

bled the lively chant of the Maryland Yellow-Throat, even to the *wetitshee*, yet they were more agreeably varied, so as to approach, in some degree, the song of the Summer Yellow-bird (*Sylvia æstiva*). This remarkable note, indeed, set me in quest of the bird, which I followed for some time, but, at last, perceiving himself watched, he left the garden. As far as I was able to observe this individual, he was above of a dark olive-green, very cinereous on the fore part of the head, with a band of black through the eyes, which descended from the sides of the neck where at length it joined with a crescent of dusky or black spots upon the breast; the throat was yellow and the under parts paler.

This species, if such it may be considered, is 5 inches long, and 7 in alar extent. Above deep greenish olive; tips of the wings and centre of the tail-feathers brownish. Head dark, almost sooty-grey. Crescent of the breast formed of alternate transverse lines of pure white, and deep black; below yellow. Legs and feet (as in the preceding) pale flesh-color. Bill dusky above, lighter below. Iris hazel.

DUSKY WARBLER.

(*Sylvia carbonata*, AUDUBON, pl. 60. Orn. Biog. i. p. 308.)

SP. CHARACT. — Crown and front black; above dark olive-green, spotted with black; throat, sides of the neck, and line over the eye, yellow; below yellowish olive and darkly spotted; two light bands on the wings.

THIS new species was obtained by Audubon near the village of Henderson in Kentucky. The only two individuals met with were males, not yet arrived at perfect plumage. Their actions and food appeared very similar with those of other Warblers.

Rump yellowish; tail emarginate, dusky. A white band on the wing formed by the margins of the upper coverts, also a yellowish one below. Bill dusky. Legs flesh-colored. Iris hazel.

YELLOW WREN, OR WILLOW WREN.

(*Sylvia Trochilus*, LATH. ii. p. 512. TEMMINCK, i. p. 224. (Ed. 2.)
Yellow Titmouse, CATESBY, i. p. 63.)

SP. CHARACTER. — Pale olive; above the eye a line of dull yellow; below yellowish, fading to white on the belly; wings and tail greyish-brown, edged with olive; the tail emarginate, exceeding the length of the wings 12 lines; 2d primary the length of the 6th.

THIS hardy species, more rare in America, inhabits also every part of Europe from Italy to Sweden. From the United States, at the approach of winter, it migrates to Jamaica, and other islands of the West Indies. In the month of October they visit this vicinity on their way to the South, and keep busily but silently foraging among the low bushes of the gardens. They feed upon flies, gnats, caterpillars, and various larvæ. They frequent the tops of trees, more particularly willows and alders, from whence they often rise singing. The notes, though rather low, are soft, and sweetly varied, and in Europe, where they breed, continue to the month of October. It makes its nest in holes, at the roots of trees, among moss and leaves, or in dry banks, and arches it over like that of the European Wren; it is made chiefly of moss, lined with wool and hair. The eggs are 5 to 7, of a reddish white, with large purplish-red spots, rather numerous at the great end. According to Catesby they breed in North Carolina.

Length about 5 inches. Iris hazel. Legs yellowish-brown. In the *female* the lower parts are of a paler and less pure yellow.

PINE-SWAMP WARBLER.

(*Sylvia sphagnosa*, BONAP. *S. pusilla*, WILSON, v. p. 100. pl. 43.
fig. 4.)

SP. CHARACTER. — Deep green olive; beneath pale ochreous; wings with a triangular spot of yellowish-white; 2 or 3 lateral tail-feath-

ers with a whitish spot on the inner vanes ; 2d primary much longer than the 6th ; tail wedge-shaped, with the feathers pointed.

THE most gloomy pine and hemlock swamps of the mountainous regions in the Middle and Northern States are, in the spring, the resort of this species, which, though not uncommon, was first described by the indefatigable Wilson. Whether they breed in those dark and moss-grown morasses is yet unknown. They visit Pennsylvania from the South about the middle of May ; and are occasionally seen in the thick woods of Massachusetts in the month of October. It is not known to have any note or song, associates with other species of the genus, and is an active fly-catcher, nimbly darting through the branches and flirting its wings as it collects its prey.

The Pine-Swamp Warbler is about 5 inches in length ; alar extent $7\frac{1}{2}$. Above a rich dark-green olive, with slight bluish reflections on the edges of the tail. Wings and tail dusky, the former widely edged with olive. Immediately below the primary coverts there is a triangular spot on the quills of a yellowish-white where exposed, but enlarging, and pure white below. Tail wedge-shaped, the feathers very acute ; 2 or 3 of the exterior feathers obscurely spotted with whitish. From the nostrils over the eye extends a whitish line, with a touch of the same on the lower eyelid ; lores blackish. Below pale ochreous, less pure on the throat, and inclined to brownish on the sides beneath the wings. Bill black, without notch. Legs flesh-colored. Iris hazel. — The plumage of the *female* is similar to that of the male.

CÆRULEAN WARBLER.

(*Sylvia azurea*, STEPHENS. AUDUBON, pl. 48. *S. cærulea*, WILSON, ii. p. 141. pl. 17. fig. 5. [male] and BONAP. Am. Orn. ii. p. 27. pl. 11. fig. 2 [female.] Phil. Museum, No. 7309.)

SP. CHARACT. — Verditer blue ; beneath and line over the eye white ; wings with 2 white bars, and with the tail black ; tail-feathers with a spot.

THIS very delicately colored species is among the rarest summer residents of the Atlantic states, and does not probably migrate or rather stray farther north than the state of New York. In the Southwestern states, particularly Tennessee and West Florida, it is one of the most abundant species; it is also found in the Western wilderness beyond the Mississippi. Its nest, however, and manners at the interesting period of incubation, are unknown. It is only in the summer that it ever ventures into the Middle States, from which it retires almost before the first chills of autumn, or by the middle of August. It frequents the borders of streams and marshes, and possesses many of the habits of the Flycatchers, warbling also at times in an under tone like that of the following species.

Length $4\frac{1}{2}$ inches; alar extent $7\frac{1}{2}$. Above verditer blue (in Audubon azure) with a few streaks of black on the upper part of the back. Wings and tail black, edged with pale blue. Tail forked, a white spot in the 5 lateral feathers on each side; the 2 middle more slightly marked with the same. From the eye backwards a line of dusky blue. Bill dusky above, light blue below. Legs and feet light blue. — *Female*, with the sides of the breast spotted or streaked with dusky bluish.

GREEN BLACK-CAPT WARBLER.

⁺
(*Sylvia Wilsonii*, BONAP. *Muscicapa pusilla*, WILSON, iii. p. 103. pl. 26. fig. 4. Phil. Museum, No. 7735.)

SP. CHARACT. — Olive-green; crown black; front, line over the eye, and all beneath, yellow; tail rounded. — *Female* without the black crown, and dull yellow olive.

THIS rare species inhabits the swamps of the Southern States, and is occasionally seen in the lower parts of the states of New Jersey and Delaware. It keeps mostly in the deepest swampy thickets, and has a sharp squeaking note no way musical. It leaves the Southern States early in October.

Length $4\frac{1}{2}$ inches; and $6\frac{1}{2}$ in alar dimensions. Belly and vent yellow, tinged with olive. Wings and tail dusky-brown, the former very short. Legs and bill flesh-colored. Iris hazel.

Subgenus. — DACNIS.

Bill thick at base, rounded, quite straight.

These are very active birds; creeping and hanging by the claws, after the manner of the Titmouse, which they also somewhat resemble in voice and action.

WORM-EATING WARBLER.

(*Sylvia vermicivora*, LATH. WILSON, iii. p. 74. pl. 24. fig. 4. *Dacnis vermicivora*, AUDUBON, pl. 34. Phil. Museum, No. 6848.)

SP. CHARACT. — Dusky-olive; head striped with black and buff; beneath dull buff, brighter on the breast; bill stout.

THIS species arrives in Pennsylvania about the middle of May, and migrates to the South towards the close of September; they were seen feeding their young, in that state, about the 25th of June, by Wilson, so that some pairs stay and breed there. They are very active and indefatigable insect-hunters, and have much of the manners and even the note of the Marsh Titmouse or Chickadee. About the 4th of October, I have seen a pair of these birds roving through the branches of trees with restless agility, hanging on the twigs and examining the trunks, in quest, probably, of spiders and other lurking and dormant insects and their larvæ. One of them likewise kept up a constant complaining call, like the sound of *tshe de de*.

Length $5\frac{1}{4}$ inches, and 8 inches in alar extent. Above dark olive, except the quills and tail, which are umber-brown. Tail scarcely forked. Head buff, marked with 4 longitudinal stripes of umber-brown. Breast orange-buff, mixed with dusky. Vent waved with dusky olive. Bill blackish above, below flesh-colored. Legs pale flesh-color. Iris hazel. — *Female* nearly similar to the male.

PROTHONOTARY WARBLER.

(*Sylvia protonotarius*, LATH. WILSON, iii. p. 72. pl. 24. fig. 3. *Dacnis protonotarius*, AUDUBON, pl. 3. Phil. Museum, No. 7020.)

SP. CHARACTER. — Yellow; back and small wing-coverts yellow-olive; wings black; rump and tail-coverts greyish-blue; all the tail-feathers, except the 2 middle ones, with a spot of white on their inner vanes; tail nearly even; bill short.

THIS beautiful species inhabits the Southern States commonly in summer, being plentiful in the low, dark, and swampy forests of the Mississippi near New Orleans, and in the wilds of Florida. In these solitary retreats they are seen nimbly flitting in search of insects, caterpillars, and larvæ, and every now and then utter a few creaking notes, scarcely deserving the name of song. They sometimes, though very rarely, proceed as far north as Pennsylvania.

The usual length of this species is $5\frac{1}{2}$ inches; alar stretch $8\frac{1}{2}$. Inner vanes of the quills and tail black, edged with pale blue. Vent white. Bill black, rather long and robust. Legs and feet leaden-grey. Iris hazel. — In the *female* the yellow and blue are rather duller.

BLUE-WINGED YELLOW WARBLER.

(*Sylvia solitaria*, WILSON, ii. p. 109. pl. 15. fig. 4. *Dacnis solitaria*, AUDUBON, pl. 20. Phil. Museum, No. 7307.)

SP. CHARACTER. — Olive-green; forehead and all beneath yellow; lores black; wings with 2 whitish bands, and with the tail greyish-blue; the 3 lateral tail-feathers with their inner vanes almost wholly white.

ABOUT the beginning of May this species enters Pennsylvania from the South, and frequents thickets and shrubberies in quest of the usual insect food of its tribe. At the approach of winter, very different from the Pine Warbler, with which it has sometimes been confounded, it retires to pass the winter in tropical America, having been

seen around Vera Cruz in autumn by Mr. Bullock. On its arrival it frequents gardens, orchards, and willow trees, gleaning among the blossoms, but at length withdraws into the silent woods remote from the haunts of men, to pass the period of breeding and rearing its young in more security. The nest, according to Wilson, is placed in a thick tuft or tussuck of long grass, occasionally sheltered and concealed by a briar. It is usually built in the form of an inverted funnel, the bottom thickly bedded with dry leaves; the sides are framed of the dry bark of stout plants, and the interior lined with slender dry grass. The materials, instead of the usual circular arrangement, are inclined, or shelve downwards on all sides from the top to the bottom, which is narrowed. The eggs, 5, are pure white, with a few pale spots of reddish near the greater end; the young are hatched by the first week in June.

Length $5\frac{1}{2}$ inches; alar extent $7\frac{1}{2}$. Vent white. Wings and tail deep brown, edged with pale blue. Bill black above, lighter below. Legs pale bluish. Feet dirty yellow. — The *female* scarcely differs from the male.

GOLDEN-WINGED WARBLER.

(*Sylvia chrysoptera*, LATH. WILSON, ii. p. 113. pl. 15. fig. 6. [male].
 BONAP. Am. Orn. i. p. 12. pl. 1. fig. 3. [female]. Phil. Museum.
 No. 7010.)

SP. CHARACTER. — Dark bluish-grey; crown and wing-coverts golden-yellow; beneath white; throat and band through the eye black.
 — *Female* olive; front and wing-coverts yellow; breast, and over the eye, dusky.

THIS scarce species appears only a few days in Pennsylvania about the last of April or beginning of May. It darts actively through the leafy branches, and like the Titmouse examines the stems for insects, and often walks with the head downwards; its notes and actions are also

a good deal similar, in common with the Worm-eating Warbler. I have never yet seen it in Massachusetts, and if it really does proceed north to breed, it must follow a western route.

The length of this species is from $4\frac{1}{2}$ to 5 inches, and 7 in alar extent. The 3 lateral tail-feathers with a spot of white on their inner vanes. Tail a little forked. The black band through the eye separated from the yellow crown by a line of white. Bill black. Legs dark ash. Iris hazel.

TENNESSEE WARBLER.

(*Sylvia peregrina*, WILSON, iii. p. 83. pl. 25. fig. 2. *S. bicolor* ? VIEILL. Phil. Museum. No. 7787.)

SP. CHARACTER.—Yellow-olive, bluish on the head; line over the eye pale yellow; beneath whitish; wings without bands; bill very short.

THIS rare and plain species was discovered by Wilson on the banks of Cumberland river in the state of Tennessee. It was hunting with great agility among the opening leaves in spring, and like the rest of the section to which it appertains, possesses a good deal of the habits of the Titmouse. Its notes were few and weak, and its food, as usual, smooth caterpillars and winged insects.

This species is $4\frac{3}{4}$ inches long; and 8 in alar extent. Wings dusky, edged with olive. Tail forked, olive, relieved with dusky. Throat and breast pale cream-color; belly and vent white. Legs purplish-brown. Bill dark dusky, somewhat paler below. Iris hazel.—In the *female* the colors are more obscure.

NASHVILLE WARBLER.

(*Sylvia rubricapilla*, WILSON, iii. p. 120. pl. 27. fig. 3. AUDUBON, pl. 89. Orn. Biog. i. p. 450. Phil. Museum, No. 7789.)

SP. CHARACTER.—Yellow-olive; head and neck ash, inclining to olive; crown deep chesnut; beneath greenish-yellow; centre of the belly nearly white; wings without bands.

THIS rare species was discovered by Wilson in the vicinity of Nashville in Tennessee; it also exists in the neighbouring states in summer, and occasionally proceeds as far north as Philadelphia, and even the neighbourhood of Salem in this state. Its discoverer was first attracted to it by the singular noise which it made, resembling the breaking of small dry twigs, or the striking together of pebbles, for six or seven times in succession, and loud enough to be heard at the distance of thirty or forty yards. A similar sound, produced, no doubt, by the smart snapping of the bill, is given by the Stone-chat of Europe, which hence in fact derives its name. Audubon says, the male, while standing in a still and erect posture, utters a few low, eagerly repeated, creaking notes. This species has all the active habits of the family to which it more particularly belongs.

Its length was $4\frac{1}{2}$ inches; alar extent 7. Wings dusky, edged with olive; the primaries with yellow. Tail slightly forked, dark olive. Legs and feet yellow. Bill dusky ash. Iris hazel. — *Female*, beneath paler, mixed with grey, and without the chesnut patch on the head.

ORANGE-CROWNED WARBLER.

(*Sylvia celata*, SAY. BONAP. Am. Orn. i. p. 45. pl. 5. fig. 2. Phil. Museum, No. 7013.)

SP. CHARACT. — Greenish-olive; crown with a fulvous spot; beneath olive-yellow; vent yellow; wings without bands.

THIS species, first discovered early in May, on the banks of the Missouri, by my friend, Mr. T. Say, appeared to be on its passage further north, and in all probability seldom penetrates into the Atlantic States. It is not uncommon, in winter, in the orange groves of West Florida, where it proceeds to pass the season, around St. Augustine; and its note is described as a mere chirp and faint squeak, scarcely louder than that of a mouse.

This species is 5 inches long, and 7 in alar stretch. Above dull greenish-olive; rump and tail-coverts bright yellow-olive. Feathers of the head rather thick and orange at base; this color only visible when the feathers are elevated. Inferior tail-coverts pure yellow. Primaries dark brown olive on the edges; tail-feathers similar to the quills, edged with white on the inner vanes. Bill dark horn-color. Legs dusky. Iris dark brown. — *Female* nearly similar.

REGULUS. (CRESTED WRENS.)

In these birds the BILL is short, straight, very slender, subulate, compressed from the base, and narrowed in the middle, furnished with bristles at the base, and with the edges somewhat bent in; the upper mandible is slenderly notched, and a little curved at the tip. NOSTRILS basal, oval, half closed by a membrane, and additionally covered also with 2 small projecting, rigid, and decompound feathers. TONGUE bristly at the tip. The FEET slender; tarsus longer than the middle toe; lateral toes nearly equal with each other; the inner one free; the hind toe stoutest, and furnished with a larger and thicker nail. — *Wings* short, rather acute, with the spurious feather very short; the 3d and 4th primaries longest; the 1st and 7th equal. Tail notched.

The *female* differs but little from the male; but the *young* are considerably duller in color. They moult annually. The plumage long and somewhat bristly; the head is ornamented with a brilliant spot on the crown. These are among the smallest of birds in temperate climates, and withstand the rigor of winter, but migrate, as it approaches, to more temperate countries. In summer they penetrate into the arctic regions, and are possessed of great activity, being unweariedly diligent in pursuit of small flying insects, and in collecting their eggs and larvæ. Like the Titmouse, they are seen vaulting on the extreme twigs of trees, and prying in all directions for their lurking prey. The nest is constructed with great art, and affixed to depending branches. They have one or two broods in the season; and the eggs are sometimes as many as 12. — They inhabit the north of both continents, migrating indifferently probably through either, and are intermediately and closely allied both to *Sylvia* and *Parus*.

RUBY-CROWNED WREN.

(*Regulus calendulus*, STEPHENS, BONAP. *Sylvia calendula*, WILSON, i. p. 83. pl. 5. fig. 3. Phil. Museum, No. 7244.)

SP. CHARACT.—Olivaceous; beneath whitish; crown vermillion, and without the black margin.

THIS beautiful little species passes the summer and breeding season in the colder parts of the North-American continent, penetrating even to the dreary coasts of Greenland, where, as well as around Hudson's Bay, they probably rear their young in solitude, and obtain abundance of the diminutive flying insects, gnats, and cynips, on which, with small caterpillars, they and their young delight to feed. In the months of October and November, the approach of winter in their natal regions stimulates them to migrate towards the South, when they arrive in the Eastern and Middle States, and frequent in a familiar and unsuspicious manner the gardens and orchards: how far they proceed to the south is uncertain. On the 12th of January I observed them near Charleston, South Carolina, with companies of *Sylvias*, busily darting through the evergreens in swampy situations, in quest of food, probably minute larvæ. About the first week in March I again observed them in West Florida in great numbers, busily employed for hours together in the tallest trees, some of which were already unfolding their blossoms, such as the maples and oaks. About the beginning of April they are seen in Pennsylvania on their way to the dreary limits of the continent, where they probably only arrive towards the close of May, so that in the extremity of their range they do not stay more than three months. Wilson, it would appear, sometimes met with them in Pennsylvania even in summer; but, as far as I can learn, they are never observ-

ed in Massachusetts at that season; and with their nest and habits of incubation we are unacquainted. In the fall they seek society apparently with the Titmouse and Golden-Crested Wren, with whom they are intimately related in habits, manners, and diet; the whole forming a busy, silent, roving company, with no object in view but that of incessantly gleaning their now scanty and retiring prey. So eagerly, indeed, are they engaged at this time, that scarcely feeling sympathy for each other, or willing to die any death but that of famine, they continue almost uninterruptedly to hunt through the same tree from which their unfortunate companions have just fallen by the destructive gun. They only make at this time, occasionally, a feeble chirp, and take scarcely any alarm, however near they are observed.

The Ruby-crowned Wren is a little more than 4 inches long, and 6 in alar extent. Above green-olive. Wings and tail dusky greyish-brown, edged with olive-yellow; secondaries and first row of wing-coverts edged and tipped with whitish. The hind head ornamented with a vermilion spot; round the eye a ring of yellowish-white. Beneath yellowish-white. Legs and feet dusky brown. The colors of the female are less lively.

CUVIER'S CRESTED WREN.

(*Regulus Cuvierii*, AUDUBON, pl. 55. Orn. Biog. i. p. 288.)

SP. CHARACT. — Cinereous olivaceous, beneath greyish-white; crown vermilion, anteriorly margined with black; cheeks cinereous, a black band from the front, through the eyes.

THIS is another interesting addition to the North American Fauna, which we owe to the talent and superior devotion to ornithology of its celebrated discoverer. No species can be better marked or more strikingly distinguished. It has the ruby-crown of *R. calendulus* with the black border of the *R. cristatus*. The only specimen yet known was shot by its describer, on the 8th of June,

on the banks of the Schuylkill, not far from Philadelphia. Its manners appeared similar to those of the preceding species.

Length $4\frac{1}{4}$ inches, alar extent 6. Front, and line through the eye extending to the back of the neck, black. Wings and tail dusky, edged with yellowish-white; two narrow short bars of white across the wings; *alula* dusky. Vent yellowish-white. Legs and feet yellowish-brown. Bill black, slender, and subulate, brighter at its base. Iris hazel.



GOLDEN-CRESTED WREN.

(*Regulus cristatus*, VIEILL. *Sylvia regulus*, WILSON, i. p. 126. pl. 8. fig. 2. [male.] BONAP. Am. Orn. i. p. 22. pl. 2. fig. 4. [female.] Phil. Museum, No. 7246.)

SP. CHARACTER. — Olivaceous; beneath whitish, tinged with rufous-olive; crown orange, margined with black; cheeks pale greyish; bill subulate and slender from the base. — *Female* with the crown lemon-yellow.

THIS diminutive bird, if indeed the same in different countries, is found, according to the season, not only throughout North America, but even in the West Indies, and almost every part of Europe. A second species with

a Fiery Crest (*R. ignicapillus*), and a *third* indigenous to Asia, are very nearly related to the present; the first having been generally confounded with it, or considered as a variety of the same species. Learned ornithologists have referred our bird without hesitation to the Fiery-crested Wren, with which, however, it only agrees in the brilliance of the crown; and, instead of being less, is indeed larger than the true Golden-crested species. Like the former, they appear associated only in pairs, and are seen on their southern route, in this part of Massachusetts, a few days in October, and about the middle of the month, or a little earlier or later according to the setting in of the season, as they appear to fly before the desolating storms of the northern regions whither they retire about May to breed. Some of these birds remain in Pennsylvania until December or January, proceeding probably but little farther south during the winter. They are not known to reside in any part of New England, retiring probably to the same remote and desolate limits of the farthest north with the preceding species, of which they have most of the habits. They are actively engaged during their transient visits to the South in gleaning up insects and their lurking larvæ, for which they perambulate the branches of trees of various kinds, frequenting gardens and orchards, and skipping and vaulting from the twigs, sometimes head downwards like the Chickadee, with whom they often keep company, making only now and then a feeble chirp. They appear at this time to search chiefly after spiders and dormant concealed coleopterous or shelly insects; they are also said to feed on small berries, and some kinds of seeds, which they break open by pecking with the bill in the manner of the Titmouse. They likewise frequent the sheltered cedar and pine woods, in which they probably take up their

roost at night. Early in April they are seen on their return to the north in Pennsylvania; at this time they dart among the blossoms of the maple and elm in company with the preceding species, and appear more volatile and actively engaged in seizing small flies on the wing, and collecting minute, lurking caterpillars from the opening leaves.

In the autumn they succeed so well in obtaining food as to become very fat, and, though so diminutive, are in some parts of Germany caught in great numbers, exposed in the market for food, and among epicures command a high price.

In England this species abides throughout the year; but though in Scotland they breed in the Orkneys, at the approach of winter they migrate to the Shetland islands over sea, a distance of 60 miles; yet, according to Mr. OEdman, they sustain themselves through the winter in the pine forests of Sweden. At the period of breeding they are said to sing melodiously, but weaker than the common Wren; but Manduyt, in the *Encyclopédie Méthodique*, assures us they have no song, merely a feeble screeper or chirp, the note attributed to it being probably that of the true Wren. The nest is built usually towards the extremities of the branches of the pine and fir, being of a spherical form, with a small entry at the side; it is externally formed of moss and lichen, and lined with downy substances, and filaments, believed to be cobwebs, or probably silk of caterpillars or cocoons. The eggs, scarcely larger than peas, are from 6 to 12, dusky yellowish white, with very minute points or reddish spots, scarcely distinguishable except on narrow inspection. Like the Titmouse, for some time, the whole busy family hunt in company, and appear very lively, active, and amusing.

The *American Golden-crested Wren* is from 4 to 4½ inches long, the female 3¾, or thereabouts. Above yellow-olive, with the hind head and sides of the neck inclining to ash; a dull whitish line, passing round the frontlet, extends over and beyond the eye on either side; above passes a broadish stripe of deep black in the same manner; the inner webs and tips of the interior of these dark feathers are of a bright lemon-yellow, forming a line of that color, and the lowest of these feathers on the front are almost wholly of the same yellow; the inner crown then presents a bed of rich *flame* color, which passes over the top of the head. The lateral black and particolored feathers are much the longest, and the two tufts are capable of widening or approaching, so as at will either to display or conceal the splendor of the crown. From the upper mandible to the bottom of the ear-feathers runs a line of black, accompanied by another which is whitish, from the lower mandible. Beneath greyish-white inclining to yellow. Wings and tail dusky, edged with yellow-olive, edges of the inner vanes of the former whitish; greater wing-coverts dusky, tipped with white, and edged with olive, forming a whitish bar on the wing; another smaller bar appears also near the shoulder, formed by the tips of the upper coverts; immediately below the greater white bar there is a large dark spot on the secondaries, below which the same feathers continue to be edged with olive. Tail rather long and forked. Legs brownish-yellow, feet and claws yellow. Bill black and slender, widish and depressed at the base. The nostrils, as usual, covered each by a decompound, recumbent feather.—The *female* is much more dusky, and dull whitish beneath. As the American bird is probably a distinct species, we propose to distinguish it as follows:

AMERICAN FIERY-CROWNED WREN.

+ (*Regulus *tricolor*. *Sylvia regulus*, WILSON, i. p. [126. pl. 8. fig. 2. [male]. BONAP. i. p. 22. pl. 2. fig. 4. [female].)

SP. CHARACT. — Yellowish-olive; beneath whitish, tinged with olive-grey; cheeks greyish-white; crown flame-colored, bordered with yellow and black; bill slender and rather short. Length more than 4 inches.—*Female*, beneath greyish-white; crown lemon-yellow.—*Young male*, with the crown golden-yellow.

NOTE. — The true *Regulus cristatus* is also probably a passenger through the United States in winter and spring. On the 15th of

October last, I observed a busy pair of these little birds, for some time, in a garden in the city of Boston; they kept up a perpetual mutual call, in a querulous note like Chicadees, and had the crown simply orange-yellow. They pursued their eager search for eggs and dormant larvæ of insects, without taking any alarm at my near approach. On striking the tree, on which they are, sharply with a stick or stone, these little timid birds have been found to drop down dead.

My friend, Mr. C. Pickering, informs me, that in the European specimen in the Philadelphia Museum (apparently a young bird) the bright colors of the crest are not very visible, and that the black external band seems to be mixed with white feathers; there is also a tint of yellow on the sides of the neck and back, brighter towards the breast, which is not at all observable on the American specimens, of either sex. The bill is likewise *longer* and more slender than in our *R. tricolor*.

WRENS. (TROGLODYTES.)

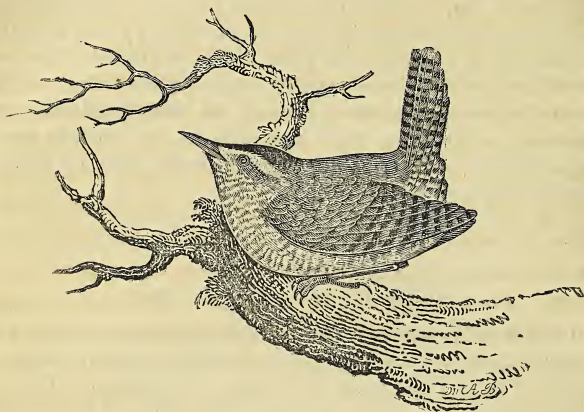
IN these birds the BILL is slender, subulate, somewhat arched and elongated, also acute, compressed, and without notch; mandibles equal. NOSTRILS basal, oval, half closed by a membrane. TONGUE slender, the tip divided into 2 or 3 small bristles. FEET slender, tarsus longer than the middle toe; inner toe free; posterior with a larger nail than the rest. — The *wings* short, concave, and rounded, furnished often with a conspicuous spurious feather or short primary; 3d, 4th, and 5th primaries longest.

The *female* and *young* hardly differ in plumage from the adult male. The moult is annual. The plumage thick and long, is always composed of sombre colors. The body is roundish, and the tail almost constantly erected. They are small musical birds, active, courageous, and capricious in their movements, almost always hid in thickets and bushes, keeping near the ground, to which they often descend to forage for worms and insects, and showing a fondness for prying into holes and dark places, as well as among logs, &c., where they more particularly surprise their prey of spiders and moths. The nest is constructed with much art, and the eggs are commonly numerous.

Subgenus. — TROGLODYTES (or PROPER WRENS.)

IN these birds the middle toe is rather long, and the nails of moderate length. In the Common Wren the bill is also somewhat straight.

These are remarkable for their almost domestic habits, building often from preference about houses, either empty or inhabited; they also sing agreeably; species of which exist in both continents.



HOUSE WREN.

(*Troglodytes fulvus*, BONAP. *T. aedon*, VIEILL. AUDUBON, ORN. Biog. i. p. 427. pl. 83, (truly admirable.) *Sylvia domestica*, WILSON, i. p. 129. pl. 8, fig. 3. *Sylvia furva*, (*fulva*?) LATH. Phil. Museum, No. 7283.)

SP. CHARACT. — Dark brown, banded with blackish; beneath dull pale grey, with obsolete indices of bands; the tail rather long and rounded.

THIS lively, cheerful, capricious, and well known little minstrel is only a summer resident in the United States. Its northern migrations extend to Labrador. But it resides and rears its young principally in the Middle States. My friend, Mr. Say, also observed this species near Pembino, beyond the sources of the Mississippi,

in the Western wilderness of the 49th degree of latitude. It is likewise said to be an inhabitant of Surinam within the tropics, where its delightful melody has gained it the nickname of the Nightingale. This region, or the intermediate country of Mexico, is probably the winter quarters of our domestic favorite. In Louisiana it is unknown even as a transient visitor,* migrating apparently to the east of the Mississippi, and sedulously avoiding the region generally inhabited by the Carolina Wren. It is a matter of surprise how this, and some other species, with wings so short and a flight so fluttering, are ever capable of arriving and returning from such distant countries. At any rate, come from where he may, he makes his appearance in the Middle States about the 12th or 15th of April, and is seen in New England in the latter end of that month or by the beginning of May. They take their departure for the South towards the close of September, or early in October, and are not known to winter within the limits of the Union.

Some time in the early part of May, our little social visitor enters actively into the cares as well as pleasures which preside instinctively over the fiat of propagation. His nest, from preference, near the house, is placed beneath the eaves, in some remote corner under a shed, outhouse, barn, or in a hollow orchard tree; also in the deserted cell of the Woodpecker, and when provided with the convenience, in a wooden box along with the Martins and Blue-birds. He will make his nest even in an old hat, nailed up, and perforated with a hole for entrance,† and Audubon saw one deposited in the pocket of a broken down carriage. So pertinacious is the

* AUDUBON, Orn. Biog. i. p. 427.

† This incident, with all the truth and beauty of nature, is given by Audubon in his best style.

House Wren in thus claiming the convenience and protection of human society, that according to Wilson, an instance once occurred where a nest was made in the sleeve of a mower's coat, which, in the month of June, was hung up accidentally for two or three days in a shed near a barn.

The nest of this species, though less curious than that of some other kinds, is still constructed with considerable appearance of contrivance. The external approach is barricaded with a strong outwork of sticks interlaced with much labor and ingenuity. When the nest therefore is placed beneath the eaves, or in some other situation contiguous to the roof of the building, the access to the inner fabric is so nearly closed by this formidable mass of twigs, that a mere portion of the edge is alone left open for the female, just sufficient for her to creep in and out. Within this judicious fort is placed the proper nest, of the usual hemispherical figure, formed of layers of dried stalks of grass and lined with feathers. The eggs, from 6 to 9, are of a reddish flesh-color, sprinkled all over with innumerable fine grains of a somewhat deeper tint. They generally rear two broods in the season; the first take to flight about the beginning of June, and the second in July, or August. The young are early capable of providing for their own subsistence, and twittering forth their petulant cry of alarm. It is both pleasant and amusing to observe the sociability and activity of these recent nurslings, who seem to move in a body, throwing themselves into antic attitudes, often crowding together into the old nests of other birds, and for some time roosting near their former cradle, under the affectionate eye of their busy parents, who have perhaps already begun to prepare the same nest for a new progeny. Indeed, so prospective and busy is

the male, that he frequently amuses himself with erecting another mansion even while his mate is still sitting on her eggs; and this curious habit of superfluous labor seems to be more or less common to the whole genus.

One of these Wrens, according to Wilson, happened to lose his mate by the sly and ravenous approaches of a cat, an animal which they justly hold in abhorrence. The day after this important loss our little widower had succeeded in introducing to his desolate mansion a second partner, whose welcome appeared by the ecstatic song which the bridegroom now uttered; after this they remained together, and reared their brood. Last summer (1830), I found a female Wren who had expired in the nest in the abortive act of laying her first egg. I therefore took away the nest from under the edge of the shed in which it was built. The male, however, continued round the place as before, and still cheerfully uttered his accustomed song. Unwilling to leave the premises, he now went to work, and made, unaided, another dwelling, and after a time brought a new mate to take possession, but, less faithful than Wilson's bird, or suspecting some lurking danger, she forsook the nest after entering, and never laid in it; but still the happy warbler continued his uninterrupted lay, apparently in solitude.

The song of our familiar Wren is loud, sprightly, and tremulous, uttered with peculiar animation, and rapidly repeated; at first the voice seems ventriloqual and distant, and then bursts forth by efforts into a mellow and echoing warble. The trilling, hurried notes seem to reverberate from the leafy branches in which the musician sits obscured, or is heard from the low roof of the vine-mantled cottage like the shrill and unwearied pipe of some sylvan elf. The strain is continued even dur-

ing the sultry noon of the summer's day when most of the feathered songsters seek repose and shelter from the heat. His lively and querulous ditty, is however still accompanied by the slower measured, pathetic chant of the Red-eyed Flycatcher, the meandering, tender warble of the Musical Vireo, or the occasional loud mimicry of the Cat-bird; the whole forming an aërial, almost celestial concert, which never tires the ear. Though the general performance of our Wren bears no inconsiderable resemblance to that of the European species, yet its voice is louder and its execution much more varied and delightful. It is rather a bold and insolent intruder upon those birds, who reside near it, or claim the same accommodation. It frequently causes the mild Blue-bird or the Martin to relinquish their hereditary claims to the garden box, and has been accused also of sucking their eggs. Nor is he any better contented with neighbours of his own fraternity who settle near him, keeping up frequent squabbles, like other little busy bodies, who are never happy but in mischief; so that upon the whole, though we may justly admire the fine talents of this petulant domestic, he is, like many other actors, merely a good performer. He is still upon the whole a real friend to the farmer and horticulturist, by the number of injurious insects and their destructive larvæ on which both him and his numerous family subsist. Bold and fearless, seeking out every advantageous association, and making up in activity what he may lack in strength, he does not confine his visits to the cottage or the country, but may often be heard on the tops of houses, even in the midst of the city, warbling with his usual energy.

The House Wren is from $4\frac{1}{2}$ to 5 inches in length; and $5\frac{3}{4}$ to 6 inches in alar extent. Above deep brown, darkest on the head and neck, and becoming much brighter on the rump. All the feathers, except those of the head and neck, barred with dusky. Below dirty whitish grey, nearly white towards the belly, feathers of the vent, and a little above, elegantly barred with dusky, white, and ferruginous; those just above the rump have large round spots of white below, not visible unless separated by the hand. Tail and wings strongly barred. Tail rather long and wedge-shaped. Bill somewhat long, upper mandible dusky brown, the lower pale, almost flesh-color. Legs and feet pale whitish yellow. — The female differs very little from the male in plumage.

COMMON OR WINTER WREN.

(*Troglodytes europæus*, LEACH. *Sylvia troglodytes*, WILSON, i. p. 139. pl. 8. fig. 6. *Troglodytes hyemalis*, VIEILL. Phil. Museum, No. 7284.)

SP. CHARACT. — Brown, banded with dusky; beneath dull rufous-grayish with obsolete bands; the tail very short; bill almost straight.

THIS little winter visitor, which approaches the Middle States in the month of October, seems scarcely in any way distinguishable from the Common Wren of Europe. It sometimes passes the winter in Pennsylvania, and according to Audubon even breeds in the Great Pine Swamp in that state, as well as in New York. Early in the spring it is seen on its returning route to the northwest. Mr. Say observed it in summer near the base of the Rocky Mountains; it was also seen, at the same season, on the White Mountains of New Hampshire by the scientific exploring party of Dr. Bigelow, Messrs. Boott, and Gray, so that it must retire to the Western or mountainous solitudes to pass the period of incubation. During its residence in the Middle States it frequents the broken banks of rivulets, old roots, and decayed logs near watery places in quest of its insect food.

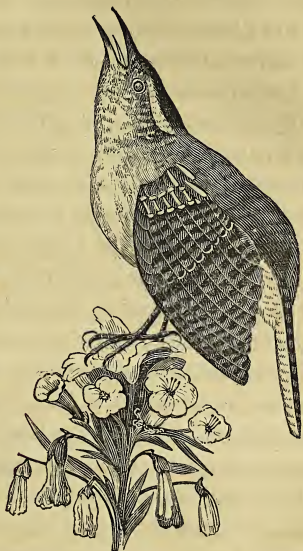
As in Europe, it also approaches the farm-house, examines the wood-pile, erecting its tail, and creeping into the interstices like a mouse. It frequently mounts on some projecting object and sings with great animation. In the gardens and out-houses of the city, it appears equally familiar as the more common House Wren.

The nest of the European Wren is often in a bush near the ground, stump of a tree, or on the ground itself; they also seek the asylum of some corner of the out-house near habitations, or some stack of wood, or hole in the wall. The form of this fabric is nearly oval, with a small entry in the side, and varies externally according to contiguous objects; thus, if near a hay-rick it is composed sometimes outwardly of hay, if on a tree clothed with lichens, these are attached to the outside of the nest; but if in a mossy stump, the exterior has almost exactly the aspect of a mere rude and larger mass of the same moss. The eggs, proverbially numerous, are said to be from 10 to 18, nearly white, with a few reddish spots at the larger end.

The Wren has a pleasing warble, and much louder than might be expected from the diminutive size of the performer. Its song likewise continues more or less throughout the year, even during the prevalence of a snow storm it has been heard as cheerful as ever; it likewise continues its note till very late in the evening, though not after dark.

The length of the Winter or Common Wren, is $3\frac{1}{2}$ inches, and the alar extent 5. Above dark-brown, crossed with transverse dusky touches, except the head and neck which are plain; the black spots of the back terminate in minute points of dull white; the same colored points are seen on the first row of wing-coverts; the primaries are crossed with alternate rows of black and cream-color. Throat, line over the eye, sides of the neck and breast, dirty white, with minute transverse touches of drab. Belly and vent thickly mottled

with sooty black, deep brown, and white, in bars. Tail very short. Legs and feet pale clay-color. Bill straight, half an inch long, dark brown above, whitish beneath. Iris light hazel.



GREAT CAROLINA or MOCKING WREN.

(*Troglodytes ludovicianus*, BONAP. AUDUBON, pl. 78. Orn. Biog. i. p. 399. *Sylvia ludoviciana*, sp. 150. LATH. *Certhia caroliniana*, WILSON, ii. p. 61. pl. 12. fig. 5. Phil. Museum, No. 7248.)

SP. CHARACT. — Chesnut-brown; wings and tail with dusky-bars, the coverts tipped with white; beneath pale rusty, inclining to grey on the throat; the vent white, barred with black; a whitish stripe over the eye, extending down to the side of the neck. — *Female*, lighter, without the white on the wing coverts.

THIS remarkable, mimicking, and musical Wren is a constant resident in the Southern states, from Virginia to Florida, but is rarely seen at any season north of the line

of Maryland or Delaware, though, attracted by the great river courses, they are abundant from Pittsburg to New Orleans. A few individuals stray, in the course of the spring, as far as the line of New York, and appear in New Jersey and the vicinity of Philadelphia early in the month of May. On the 17th of April, returning from a Southern tour of great extent, I again recognised my old and pleasing acquaintance, by his usual note, near Chester on the Delaware, where, I have little doubt, a few remain and pass the summer, retiring to the South only as the weather becomes inclement. On the banks of the Patapsco near Baltimore their song is still heard to the close of November. According to Audubon, the nest of this bird is usually placed in a hole in some low and decayed tree, or in a fence-post; sometimes also in a stable, barn, or out-house. The materials employed are hay, dry grass, and leaves, for the outer part; with a lining of horse-hair, or the capillary dry fibres of the Long-moss (*Tillandsia*). Sometimes the nest is 5 or 6 inches deep, but, with the usual precaution of the family, so narrow in the entrance as only to admit of one of the birds at a time. The eggs, 5 to 8, are oval, and greyish-white, spotted with reddish-brown. Like the common species, an individual (probably one of the young birds) has been observed to roost for a time in an old Wood Thrush's nest which had been filled with fallen leaves. They are so prolific as to raise two, and sometimes three broods in a season.

Our bird has all the petulance, courage, industry, and familiarity of his particular tribe. He delights to survey the meanders of peaceful streams, and dwell amidst the shady trees which adorn their banks. His choice seems to convey a taste for the picturesque and beautiful in nature, himself, in the fore-ground, forming one of the

most pleasing attractions of the scene. Approaching the water-fall, he associates with its murmurs the presence of the King-Fisher, and modulating the hoarse rattle of his original into a low, varied, desponding note, he sits on some depending bough by the stream, and calls, at intervals, in a slow voice, *tee-yùrrh tee-yùrrh*, or *chr'r'r'r'rh*. In the tall trees by the silent stream, he collects the lively, common note of the Tufted Titmouse, and repeats the *peto peto peto peet*, or his peevish *katétédid*, *katétédid*, *katedid*. While gleaning low, amidst fallen leaves and brush-wood, for hiding and dormant insects and worms, he perhaps brings up the note of his industrious neighbour the Ground Robin, and sets to his own sweet and liquid tones the simple *towcet towcet towcet*. The tremulous trill of the Pine Warbler is then recollected, and *tr'r'r'r'r'r'rh* is whistled. In the next breath comes his imitation of the large Woodpecker, *woity woity woity* and *wotchy wotchy wotchy*, or *tshovee tshovee tshof*, and *tshooădee tshooădee tshooadeet*, then varied to *tshuvai tshuvai tshuvat*, and *toovaiïah toovaiïah toovaiïatoo*. Next comes perhaps his more musical and pleasing version of the Blackbird's short song, *wottitshee wottitshee wottitshee*. To the same smart tune is now set a chosen part of the drawling song of the Meadow Lark,* *precědo precědo preceet*, then varied *recědo recědo receet* and *tecedo tecedo teceet*; or changing to a bass key, he tunes *sooteet sooteet soot*. Once, I heard this indefatigable mimic attempt delightfully the warble of the Bluebird in the month of February. The bold whistle of the Cardinal Bird is another of the sounds he delights to imitate and repeat in his own quaint manner; such as, *vit-yù vit-yù vit-yù*, and *vishnu vishnu vishnu*, then his *woitee woitee woitee* and *wiltee wiltee wiltee*. Soon after

* *Sturnus ludovicianus*.

I first heard the note of the White-eyed Vireo in March, the Carolina Wren immediately mimicked the note of *teeah wěwá, witte weewá*. Some of these notes would appear to be recollections of the past season, as imitations of the Maryland Yellow-Throat (*wittisee wittisee wittisee wit*, and *shewaidit, shewaidit, shewaidit*) not yet heard or arrived within the boundary of the United States. So also his *tsherry tsherry tsherry tshup* is one of the notes of the Baltimore Bird, yet in South America.

While at Tuscaloosa, about the 20th of February, one of these Wrens, on the borders of a garden, sat and repeated for some time, *tshe-whiskeeiskeeiskee*, then *soolait soolait soolait*; another of his phrases is *tshukădee tshukădee tshukădeetshoo*, and *chjibway chjibway chjibway*, uttered quick; the first of these expressions is in imitation of one of the notes of the Scarlet Tanager. Amidst these imitations and variations which seem almost endless, and lead the stranger to imagine himself, even in the depth of winter, surrounded by all the quaint choristers of the summer, there is still, with our capricious and tuneful mimick, a favorite theme more constantly and regularly repeated than the rest. This was also the first sound that I heard from him, delivered with great spirit, though in the dreary month of January. This sweet and melodious ditty, *tsee-toot tsee-toot tsee-toot*, and sometimes *tsee-toot tsee-toot seet*, was usually uttered in a somewhat plaintive or tender strain, varied at each repetition with the most delightful and delicate tones, of which no conception can be formed without experience. That this song has a sentimental air may be conceived from its interpretation by the youths of the country, who pretend to hear it say, *swěet-heart swěet-heart swěet!* nor is the allusion more than the natural truth, for, usually, this affectionate ditty

is answered by its mate, sometimes in the same note, at others in a different call. In most cases it will be remarked, that the phrases of our songster are uttered in 3s; by this means, it will generally be practicable to distinguish its performance from that of other birds, and particularly from the Cardinal Grosbeak, whose expressions it often closely imitates both in power and delivery. I shall never, I believe, forget the soothing satisfaction and amusement I derived from this little constant and unwearied minstrel, my sole vocal companion through many weary miles of a vast, desolate, and otherwise cheerless wilderness. Yet with all his readiness to amuse by his Protean song, the epitome of all he had ever heard, or recollected, he was still studious of concealment, keeping busily engaged near the ground, or in low thickets in quest of his food; and when he mounted a log or brush pile, which he had just examined, his color, so similar to the fallen leaves and wintry livery of nature, often prevented me from gaining a glimpse of this wonderful and interesting mimic.

Like the preceding species, he has restless activity, and a love for prying into the darkest corners after his prey, and is particularly attached to the vicinity of rivers and wet places, when not surrounded by gloomy shade. His quick and capricious motions, antic jerks, and elevated tail, resemble the actions of the House Wren. Eager and lively in his contracted flight, before shifting he quickly throws himself forward so as nearly to touch his perch previous to springing from his legs. In Tuscaloosa and other towns in Alabama, he appeared frequently upon the tops of the barns and out-houses, delivering with energy his varied and desultory lay. At Tallahassee, in West Florida, I observed one of these birds chanting near the door of a cottage, and

occasionally imitating, in his way, the squalling of the crying child within, so that, like the Mocking Bird, all sounds if novel, contribute to his amusement.

The Mimicking Wren is about $5\frac{1}{4}$ inches long, and 7 in alar dimensions. Above chesnut-brown, the wings and tail barred with dusky; a streak of yellowish-white passes over the eye and descends to the sides of the neck; below that, a streak of reddish brown extends from behind the eye to the shoulder. The chin is yellowish-white or pale gray, the rest of the body below is of a pale rust-color; the vent white, barred with black. Wing-coverts minutely tipt with white. Legs and feet dusky flesh-color. Bill $\frac{3}{4}$ of an inch long, with the upper mandible bluish-black, the lower lighter. Tail wedge-shaped, the 2 exterior feathers on each side $\frac{3}{4}$ of an inch shorter. — As in the two preceding species, the feathers of the lower part of the back when parted appear below spotted with white, but broadly tipt above with reddish-brown.

BEWICK'S WREN.

(Trogodytes Bewickii, AUDUBON, pl. 18. Orn. Biog. i. p. 96.)

SP. CHARACT. — Chesnut-brown; beneath cinereous inclining to white; stripe over the eye pale yellowish-brown; tail long, and rounded, the lateral feathers spotted, and the external barred on the outer webs with black and white.

For the discovery of this beautiful species of Wren, apparently allied to the preceding, with which it seems nearly to agree in size, we are indebted to the indefatigable Audubon, in whose splendid work it is for the first time figured, almost with the spirit and animation of life itself. It was observed by its discoverer, towards the approach of winter, in the lower part of Louisiana. Its manners are very similar to those of other species, but instead of a song, at this season, it only uttered a low twitter.

Length 5 inches, alar extent $6\frac{1}{2}$. Wings slenderly barred with dusky. Tail long, the central feathers chesnut, barred with dusky, the rest nearly black, with the outer webs crossed with white. The

outer tail-feathers not more than half the length of the middle ones. Legs and bill dusky-brown, the lower mandible paler.

ROCKY-MOUNTAIN WREN.

(*Troglodytes obsoleta*, SAY. *Myothera obsoleta*, BONAP. Am. Orn. i. p. 6. pl. 1. fig. 2. Phil. Museum, No. 2420.)

SP. CHARACT.—Dusky-brownish, waved with paler lines; beneath whitish marked with brown; tail long and rounded, bordered with ferruginous yellow; bill one inch long.

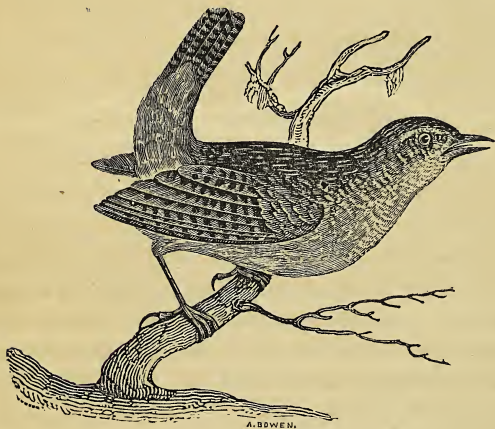
THIS large species was discovered near the Arkansas river, in the neighbourhood of the Rocky Mountains, by Major Long's exploring party, and first described by Mr. T. Say. The individual was a male, obtained in the month of July. The only note at this time heard from it was harsh like the voice of the Tern, (probably a note of alarm from the parent in cautioning its young.) It appeared to inhabit a sterile district devoid of trees, hopped along the ground, or flitted through the branches of the low stunted junipers which bordered the river, in small families of five or six individuals. While thus engaged, it spread out its tail, but showed no inclination to climb, perching merely in the usual manner of the other Wrens.

The Rocky Mountain Wren is 6 inches long. The bill an inch or more from the corner of the mouth to the point, is very slender, and of a dark color. The feet are also dusky; the tarsus $\frac{7}{8}$ th of an inch. Iris dark brown. Above dusky-brownish, slightly undulated with pale lines, and tinted on the top of the head and upper part of the back with dull ferruginous. Sides of the head dull whitish, a brown line passing through the eye. Beneath whitish, with pale brown lines, except the belly which is wholly white, and the flanks slightly tinged with ferruginous. The primaries spotless; tail-coverts pale, with fuscous bands; inferior tail-coverts white with dark brown bands. Tail nearly 2 inches, rounded, and obsoletely banded.

Section — THRYOTHORUS, (Marsh-Wrens.)

These birds scarcely merit any separation from the preceding, differing merely in their habits; their feet, better formed for climbing among reeds and rank herbage, have all the toes nearly of equal length, the middle one only a trifle longer, and the hinder toe more robust; the claws, however, are all long, slender, and very sharp. There is no sensible difference in the bill of these from the preceding section, except that it may be a little more slender. The spurious feather in the wings is the same as in the true Wrens.

These birds frequent, and live exclusively in watery and enswamped situations, sometimes among reeds, which they grasp and ascend by hops. Their voice is less musical than in the birds of the preceding section, but not without some degree of similar harmonious modulation. They are peculiar to America, and extend to the extremity of the South American hemisphere.



SHORT-BILLED MARSH-WREN.

(*Troglodytes *brevirostris*, NOBIS. Read in Acad. Nat. Sc. Phil. Transactions of the American Academy, v. p. 98. with a figure.)

SP. CHARACT. — Bill shorter than the head, which is striated; above dark brown, varied with rufous and whitish; beneath, except the white throat and centre of the breast, pale rufous; wings barred.

THIS amusing and not unmusical little species inhabits the lowest marshy meadows, but does not frequent the reed-flats. It never visits cultivated grounds, and is at all times shy, timid, and suspicious. It arrives in this part of Massachusetts about the close of the first week in May, and retires to the South by the middle of September at farthest, probably by night, as it is never seen in progress, so that its northern residence is only prolonged about four months.

Its presence is announced by its lively and quaint song of *'tsh 'tship, ă dăy dăy dăy dăy*, delivered in haste and earnest at short intervals, either when he is mounted on a tuft of sedge, or while perching on some low bush near the skirt of the marsh. The *'tsh 'tship* is uttered with a strong aspiration, and the remainder with a guttural echo. While thus engaged, his head and tail are alternately depressed and elevated, as if the little odd performer were fixed on a pivot. Sometimes the note varies to *'tship 'tship 'tshia, dh' dh' dh' dh'*, the latter part being a pleasant trill. When approached too closely, which not often happened, as he permitted me to come within two or three feet of his station, his song becomes harsh and more hurried, like *'tship dă dă dă*, and *de, de, de de d' d' dh*, or *tshe de de de de*, rising into an angry, petulant cry, which is sometimes also a low hoarse and scolding *daigh daigh*; then again on invading the nest, the sound sinks to a plaintive *'tsh tship, 'tsh tship*. In the early part of the breeding season, the male is very lively and musical, and in his best humor he tunes up a *'tship 'tship tship a dee*, with a pleasantly warbled and reiterated *de*. At a later period, another male uttered little else than a hoarse and guttural *daigh*, hardly louder than the croaking of a frog. When approached they repeatedly descend into the grass, where they spend much of their

time in quest of the insects, chiefly crustaceous, which, with moths, constitute their principal food ; here unseen they still sedulously utter their quaint warbling ; and *tship tship a day day day day*, may, for about a month from their arrival, be heard pleasantly echoing on a fine morning from the borders of every low marsh and wet meadow, provided with tussucks of sedge-grass, in which they indispensably dwell, for a time engaged in the cares and gratification of raising and providing for their young.

The nest of the Short-Billed Marsh-Wren is made wholly of dry, or partly green sedge, bent usually from the top of the grassy tuft in which the fabric is situated. With much ingenuity and labor these simple materials are loosely entwined together into a spherical form, with a small and rather obscure entrance left in the side ; a thin lining is sometimes added to the whole, of the linty fibres of the silk weed, or some other similar material. The eggs, pure white, and destitute of spots, are probably from 6 to 8. In a nest containing 7 eggs, there were 3 of them larger than the rest, and perfectly fresh, while the 4 *smaller* were far advanced towards hatching ; from this circumstance we may fairly infer that *two* different individuals had laid in the same nest ; a circumstance more common among wild birds than is generally imagined. This is also the more remarkable, as the male of this species, like many other Wrens, is much employed in making nests, of which not more than one in three or four are ever occupied by the females !

The summer limits of this species, confounded with the ordinary Marsh-Wren, are yet unascertained ; and it is singular to remark how near it approaches to another species inhabiting the temperate parts of the southern hemisphere in America, namely the *Sylvia platensis*, figured and indicated by Buffon. The description,

however, of this bird, obtained by Commerson on the banks of La Plata, is too imperfect for certainty. It was found probably in a marshy situation, as it entered the boat in which he was sailing. The time of arrival and departure in this species, agreeing exactly with the appearance of the Marsh-Wren of Wilson, inclines me to believe that it also exists in Pennsylvania with the following, whose migration, according to Audubon, is more than a month earlier and later than that of our bird. Mr. Cooper, however, has not been able to meet with it in the vicinity of New York.

The Short-Billed Marsh-Wren is about $4\frac{1}{2}$ inches long. The bill $\frac{1}{2}$ an inch from the tip to the gape of the mouth. Above blackish-brown, varied with white and rufous, chiefly along the shafts of the feathers; top of the head also lined. Wings dusky, conspicuously barred with whitish and rufous on the outer webs, 3d and 4th primaries longest and nearly equal to each other. Upper tail-coverts, elegantly barred with the three colors above mentioned. Tail rounded, barred with dusky and rufous grey. Below, centre of the breast and throat, white; sides of the breast, belly, and vent pale rust-color; beneath the wings the flanks are faintly barred, the feathers having a single subterminal band. Legs and feet pale brownish flesh-color; claws scarcely more than half the length of those of the common Marsh-Wren. Bill rather dusky above, pale beneath, considerably curved, but much compressed at the sides.—The *female* and *young* scarcely distinguishable from the adult male.

MARSH-WREN.

(*Troglodytes palustris*, BONAP. AUDUBON, pl. 98. Orn. Biog. vol. i. p. 500. *Certhia palustris*, WILSON, ii. p. 58. pl. 12. fig. 4. Phil. Museum, No. 7282.)

SP. CHARACT.—Dark brown; crown dusky brown; neck and back the same streaked with whitish; a white stripe over the eye; beneath silvery-whitish, the vent only tinged with pale brown; bill $\frac{3}{4}$ of an inch.

THIS retiring inhabitant of marshes and the wet and sedgy borders of rivers, arrives in the Middle States of

the Union early in April, and retires to the south about the middle of October. According to Audubon many individuals of this species pass the winter near the shores of West Florida, and the estuaries of the Mississippi. They are scarcely known to the north of the state of New York, their place, in New England, being apparently occupied by the preceding species; westward they were met with on the banks of the Missouri, within the wooded regions, by Mr. Say. It is a remarkably active and quaint little species, skipping about with great activity after its insect food and their larvæ among the rank grass and rushes, near ponds, and the low banks of rivers, where alone it affects to dwell, laying no claims to the immunities of the habitable circle of man; but content with its favorite marshes, neglected and seldom seen, it rears its young in security. The song of this species, according to the observations of a friend,* is very similar to that of the preceding, a sort of short, tremulous, and hurried warble. Its notes were even yet heard in an island of the Delaware, opposite to Philadelphia, as late as the month of September, where they were still in plenty in this secluded asylum. It does not appear that Wilson had ever heard the voice of this species; or he seems indeed to have confounded it with the actual bubbling of the marshy ground on which he trod. Audubon compares its quickly repeated notes to the grating of a rusty hinge, and adds, that its merry song is continued nearly through the whole of the fore part of the day.†

The nest according to Wilson, is generally suspended among the reeds, and securely tied to them at a suffi-

* Mr. R. Howarth.

† Orn. Biog. i. p. 500. If, in fact, this species sings like the preceding, with all deference to Mr. Audubon, from whom I am sorry ever to be obliged to differ, I cannot perceive any resemblance to the grating sound of a hinge.

cient height above the access of the highest tides. It is formed of wet rushes well intertwined together, mixed with mud, and fashioned into the form of a cocoa nut, having a small orifice left in the side for entrance. The inside is lined with fine, soft grass, sometimes with feathers, and the outside, when hardened by the sun, resists all the injuries of the weather. The principal material of this nest, as in the preceding species, is, however, according to Audubon, the leaves of the sedge-grass, on a tussuck of which it also occasionally rests. The eggs are commonly 6 to 8, of a dark fawn, or almost mahogany color. The young quit the nest about the 20th of June, and they generally have a second brood in the course of the season. From the number of empty nests found in the vicinity of the residence of the Marsh Wren, it is pretty evident that it is also much employed in the usual superfluous or capricious labor of the genus. The pugnacious character of the males, indeed, forbids the possibility of so many nests being amicably occupied in the near neighbourhood in which they are commonly found.

The Marsh-Wren is a little more than $4\frac{1}{4}$ inches long. The tail is short, rounded and barred with blackish; the wings slightly barred; the sides of the neck are mottled with touches of a light clay-color on a whitish ground; the rump is also faintly spotted. The legs and feet are pale brownish yellow, and large for the size of the bird; the tarsus is $\frac{3}{4}$ of an inch; the nails very long, slender, sharp, and arched; the hind one particularly long, and the toe itself stout, the middle toe but slightly exceeds the lateral ones. The bill slender, and greatly curved; the upper mandible dark brown, the lower testaceous, and paler brown towards the tip. Tongue sharp-pointed, attenuated, and entire. Iris hazel.

COTINGAS. (AMPELIS. *Lin.*)

In this family of birds the BILL is short, somewhat depressed, higher than it is wide, hard, solid, triangular at the base, compressed and notched at the point, a little convex above, and somewhat abruptly reflected at the point. NOSTRILS basal, lateral, rounded, half way closed by a membrane, and thinly covered by the advancing hairs of the face. The *feet* of moderate size; the tarsus about the length, or shorter than the middle toe, the lateral toe united to the adjoining up to the 2d joint. *Wings* moderate in size, the 1st quill not so long as the 2d, which is the longest.

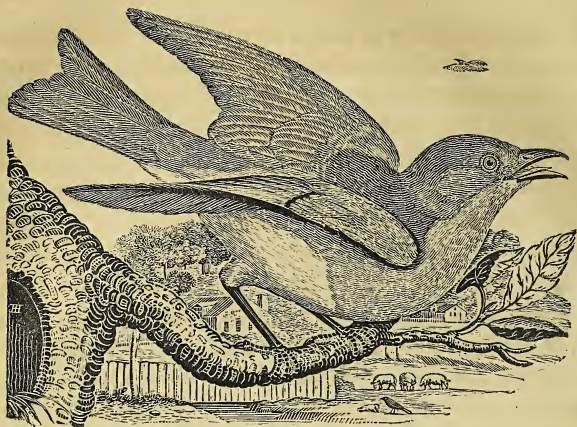
These birds are remarkable for the brilliance of their plumage, and with the exception of our Blue-Bird, are peculiar to the warmer parts of America. Inhabiting the tropics, their migrations are confined to a narrow compass. They appear in numbers twice a year in the vicinity of habitations, but in the breeding season associate only in pairs. They frequent the borders of rivulets and marshes, and live much on insects, particularly the destructive *Termes*. They also frequent the rice fields, devouring the grain probably while in the unripe state; they also feed on fruits. The Pampadour builds in large trees on the borders of rivers, and selects the higher branches, but does not dwell in the great forests. The Guiraroo utters a somewhat disagreeable cry. Our bird is also related to the section SAXICOLÆ of *Turdus*, and particularly to the Blue Thrush, which it so much resembles in color. This bird like ours has sometimes the same habit of nesting in hollow trees, and lays even pale greenish, spotless eggs; more commonly however, it quits its wild retreats in the mountains, selecting an elevated tower or steeple for its nest; and here the male passes much of his time in song, during the period of incubation. His tones are rather tender and plaintive; while thus employed his lively emotions display themselves in action, he rises upwards, erects the feathers of his head, spreads his tail, and flutters with his wings. They are also daring in the defence of their young; arrive in the warmer parts of Europe in April, departing at the close of August, and like our Blue-Bird, they faithfully return to the *same place* where they have once taken up their residence: they are endeared and venerated even to superstition by the inhabitants. The greater length of the bill, which is however of the same general form, opposes its *artificial* association with our Blue-Bird, though its man-

ners are so strikingly similar. To the Thrushes generally, our bird has a near affinity, and his song is nearly similar to that of the American Robin, but more tender and languid in the delivery. Besides his other affinities, he seems allied to the Red-Breast of Europe (*Sylvia rubecola*), as well as to the Blue-throated Warbler (*S. sulcica*), which are sufficiently distinct from true *Sylvias*.

Subgenus — *SIALIA*. (Genus *SIALIA*. *Swainson*.)

The BILL rather robust, short, and cleft to the eyes, about as wide as high at the base ; upper mandible rounded, carinated towards the base, notched and curved at the tip, the lower scarcely shorter, straight, compressed at the sides. TONGUE cartilaginous, shortly lacerate at the base, and emarginate at the point. NOSTRILS basal, open, oval, partly obstructed by an internal tubercle, the nasal fosse extensive and depressed. *Tarsus* rather robust, a little shorter than the middle toe ; inner toe free ; the hind one stoutest, longer than the nail. *Wings* rather long and acute ; 1st and 2d primaries longest, the 3d scarcely shorter ; (spurious feather about an inch long.)

The Blue-Bird is familiar to the orchard, dwells much in trees, forming its nest in their hollow trunks, with a coarse lining of dry grass or hay ; it lays 5 or 6 pale blue and spotless eggs ; lives on coleopterous insects, grasshoppers, worms, and berries, in the manner of the Thrush, and possesses the same pleasing and musical voice. It does not affect solitude or retirement, often takes possession of an artificial box near the house or barn, and flits along the public path, in preference to the woods or secluded retreats.



BLUE-BIRD.

(*Ampelis sialis*, NOBIS. *Sialia Wilsonii*, SWAINSON. *Sylvia sialis*, WILSON, i. p. 56. pl. 3. fig. 3. [male.] *Saxicola sialis*, BONAP. Ann. Lyc. ii. p. 88.)

SP. CHARACT. — Blue; beneath ferruginous; the belly whitish. — *Female* dull blue. — *Young*, dusky, spotted with white; beneath greyish white, clouded with dusky; wings and tail bluish.

THIS well known and familiar favorite inhabits probably the whole continent of America to the very line of the tropics. Some appear to migrate in winter to the Bermudas and Bahama islands, though most of those which pass the summer in the North only retire to the Southern States, or the table land of Mexico. In South Carolina and Georgia they were abundant in January and February, and even on the 12th and 28th of the former month, the weather being mild, a few of these wanderers warbled out their simple notes from the naked limbs of the long-leaved pines. Sometimes they even pass the winter in Pennsylvania, or at least make their appearance with almost every relenting of the severity of the winter or

warm gleam of thawing sunshine. From this circumstance of their roving about in quest of their scanty food, like the hard-pressed and hungry Robin Red-Breast, who by degrees gains such courage from necessity, as to enter the cottage for his allowed crumbs ; it has without foundation been supposed that our Blue-Bird, in the intervals of his absence, passes the tedious and stormy time in a state of dormancy ; but it is more probable that he flies to some sheltered glade and warm and more hospitable situation, to glean his frugal fare from the berries of the cedar, or the wintry fruits which still remain ungathered in the swamps. Defended from the severity of the cold, he now also, in all probability, roosts in the hollows of decayed trees, a situation which he generally chooses for the site of his nest. In the South, at this unpromising and gloomy season, they are seen to feed on the glutinous berries of the mistletoe, the green-briar, and the sumach. Content with their various fare, and little affected by the extremes of heat and cold, they breed and spend the summer from Labrador to Natchez, if not to Mexico, where great elevation produces the most temperate and mild of climates. They are also abundant at this season, to the west of the Mississippi, in the territories of the Missouri and Arkansas.

In the Middle and Northern States, the return of the Blue-Bird to his old haunts round the barn and the orchard, is hailed as the first agreeable presage of returning spring, and he is no less a messenger of grateful tidings to the farmer, than an agreeable, familiar, and useful companion to all. Though sometimes he makes a still earlier flitting visit, from the 3d to the middle of March he comes hither as a permanent resident, and is now accompanied by his mate, who immediately visits the box in the garden, or the hollow in the decayed or-

chard tree, which has served as the cradle of preceding generations of his kindred. Affection and jealousy, as in the contending and related Thrushes, have considerable influence over the Blue-Bird. He seeks perpetually the company of his mate, caresses and soothes her with his amorous song, to which she faintly replies; and, like the faithful Rook, seeks occasion to show his gallantry by feeding her with some favorite insect. If a rival make his appearance, the attack is instantaneous, the intruder is driven with angry chattering from the precincts he has chosen, and he now returns to warble out his notes of triumph by the side of his cherished consort. The business of preparing and cleaning out the old nest or box now commences; and even in October, before they bid farewell to their favorite mansion, on fine days, influenced by the anticipation of the season, they are often observed to go in and out of the box as if examining and planning out their future domicil. Little pains, however, are requisite for the protection of the hardy young; and a substantial lining of hay, and now and then a few feathers, is all that is prepared for the brood beyond the natural shelter of the chosen situation. As the Martin and House Wren seek out the favor and convenience of the box, contests are not unfrequent with the parties for exclusive possession; and the latter, in various clandestine ways, exhibits his envy and hostility to the favored Blue-Bird. The eggs are 5 or 6, of a very pale blue, and without spots. As they are very prolific, and constantly paired, they often raise 2 and sometimes probably 3 broods in the season; the male taking the youngest under his affectionate charge, while the female is engaged in the act of incubation.

Their principal food consists of insects, particularly beetles, and other shelly kinds; they are also fond of

spiders and grasshoppers, for which they often, in company with their young, in autumn, descend to the earth, in open pasture fields or waste grounds. Like our Thrushes, they, early in spring, also collect the common wire-worm, or *Iulus*, for food, as well as other kinds of insects, which they commonly watch for, while perched on the fences or low boughs of trees, and dart after them to the ground as soon as perceived. They are not, however, flycatchers, like the *Sylvias* and *Muscicapas*, but are rather industrious searchers for subsistence, like the Thrushes, whose habits they wholly resemble in their mode of feeding. In the autumn, they regale themselves on various kinds of berries, as those of the sour gum, wild cherry, and others ; and later in the season, as winter approaches, they frequent the red cedars and several species of sumach for their berries, eat persimmons in the Middle States, and many other kinds of fruits, and even *seeds*, the latter of which never enter into the diet of the proper Flycatchers. They have also, occasionally, in a state of confinement, been reared and fed on soaked bread and vegetable diet, on which they thrive as well as the Robin.

The song of the Blue-Bird, which continues almost uninterruptedly from March to October, is a soft, rather feeble, but delicate and pleasing warble, often repeated at various times of the day, but most frequently in early spring, when the sky is serene, and the temperature mild and cheering. At this season, before the earnest Robin pours out his more energetic lay from the orchard tree or fence-rail, the simple song of this almost domestic favorite is heard nearly alone ; and if, at length, he be rivalled, at the dawn of day, by superior and bolder songsters, he still relieves the silence of later hours, by his unwearyed and affectionate attempts to please and accompany

his devoted mate. All his energy is poured out into this simple ditty, and with an ecstatic feeling of delight he often raises and quivers his wings like the Mocking Orpheus; and, amidst his striving rivals in song, exerts his utmost powers to introduce variety into his unborrowed and simple strain. On hearkening some time to his notes, an evident similarity to the song of the Thrush is observable, but the accents are more weak, faltering, and inclining to the plaintive. As in many other instances, it is nearly impossible to give any approximating idea of the expression of warbled sounds by words, yet their resemblance to some quaint expressions, in part, may not be useless, as an attempt to recall to memory these pleasing associations with native harmony; so the Blue-Bird, often, at the commencement of his song, seems tenderly to call in a whistled tone 'hear — 'héar büty, buty? or merely héar — büty, and instantly follows this interrogatory call with a soft and warbling trill. So much is this sound like that which they frequently utter, that on whistling the syllables in their accent, even in the cool days of autumn, when they are nearly silent, they often resume the answer in sympathy. During the period of incubation, the male becomes much more silent, and utters his notes principally in the morning. More importantly engaged, in now occasionally feeding his mate as well as himself, and perhaps desirous of securing the interesting occupation of his devoted consort, he avoids betraying the resort of his charge by a cautious and silent interest in their fate. Gentle, peaceable, and familiar, when undisturbed, his society is courted by every lover of rural scenery, and it is not uncommon for the farmer to furnish the Blue-Bird with a box as well as the Martin, in return for the pleasure of his company, the destruction he makes upon injurious insects, and the cheerfulness of his song.

Confident in this protection, he shows but little alarm for his undisturbed tenement; while, in the remote orchard, expecting no visitor but an enemy, in company with his anxious mate, he bewails the approach of the intruder, and flying round his head and hands, appears, by his actions, to call down all danger upon himself rather than suffer any injury to arrive to his helpless brood.

Towards autumn, in the month of October, his cheerful song nearly ceases, or is now changed into a single plaintive note of *tshāy-wīt*, while he passes with his flitting companions over the fading woods; and as his song first brought the welcome intelligence of spring, so now his melancholy plaint presages, but too truly, the silent and mournful decay of nature. Even when the leaves have fallen, and the forest no longer affords a shelter from the blast, the faithful Blue-Bird still lingers over his native fields, and only takes his departure in November, when, at a considerable elevation, in the early twilight of the morning, till the opening of the day, they wing their way in small roving troops to some milder regions in the South. But yet, after this period, in the Middle States, with every return of moderate weather, we hear his sad note in the fields, or in the air, as if deploring the ravages of winter; and so frequent are his visits, that he may be said to follow fair weather through all his wanderings till the permanent return of spring.

The Blue-Bird is about $7\frac{1}{2}$ inches long. The wings remarkably full and broad. Above a rich sky-blue. Inner vanes of the quills and their shafts dusky, the outer blue. Beneath ferruginous; belly and vent white. Bill and legs black. Inside of the mouth and soles of the feet yellow; the claws very sharp. Iris golden.—The *female* is of much duller colors both above and beneath; the whole back and head, except the wings, is almost of a lead-color, with faint tints only of blue.—From an accidental injury to the upper mandible, I have seen a specimen in which the bill was much lengthened and nearly crossed as in the *Loxia*.

GENUS. — ANTHUS. (LARKS of *Lin.*)

In these birds the BILL is straight, slender, cylindric, and subulate towards the point, with the edges somewhat inflected towards the middle, and at the base destitute of bristles; the base of the upper mandible carinated, with the point slightly notched and declining. NOSTRILS basal, lateral, half closed by a membrane. Feet slender; tarsus longer than the middle toe; inner toe free; hind toe shortest with the nail almost always long, and somewhat straight. — Wings moderate, no spurious feather; 1st, 2d, and 3d primaries longest; secondaries notched at tip; 2 of the scapulars nearly equal to the longest primaries. Tail rather long and emarginate.

The *female* and *young* are usually much like the adult male, who assumes somewhat more brilliant colors only during a few days of the breeding season. The moult is annual. — These birds have many of the habits of the Wagtails and also of the Larks; they sing when rising on the wing in the same manner as the latter. They live habitually on the ground in open places, in fields, and along the gravelly borders of streams and other bodies of water; while thus employed in collecting their sole insect food, they keep their tails vertically moving like the *Motacillas*; they also nest on the ground, and most of the species never alight on trees. The species, though few, are spread over the whole globe.

BROWN OR RED LARK.

(*Anthus spinoletta*, BONAP. *A. aquaticus*, AUDUBON, pl. 10. Orn. Biog. i. p. 49. *Alauda rufa*, WILSON, v. p. 89. pl. 42. fig. 4. [young.] Phil. Museum, No. 5138.)

SP. CHARACT. — Beneath and line over the eye white; breast and flanks spotted with blackish; tail-feathers nearly black, the outer one half white, upon the 2d and often upon the 3d, a conic white spot; hind nail long and curved. — *Female* more spotted below. — *Young* dark-brown inclining to olive, with blackish-brown spots; line over the eye and beneath pale yellowish rufous, the breast strongly spotted. — The *old male*, for a short time in the breeding season, is below of a pale rufous rose-color.

THIS is a winter bird of passage in most parts of the United States, arriving in loose, scattered flocks from the North, in the Middle and Eastern States, about the sec-

ond week in October. According to its well known habits, it frequents open flats, commons, and ploughed fields, like a Lark, running rapidly along the ground, and taking by surprise its insect prey of flies, midges, and other kinds. They also frequent the river shores, particularly where gravelly, in quest of minute shell-fish, as well as aquatic insects and their larvæ. At this time they utter only a feeble note or call, like *tweet twéet*, with the final tone often plaintively prolonged, and, when in flocks, wheel about and fly pretty high, and to a considerable distance before they alight. Sometimes families of these birds continue all winter in the Middle States, if the season prove moderate. In the Southern States, particularly North and South Carolina, they appear in great flocks in the depth of winter. On the shores of the Santee, in January, I observed them gleaning their food familiarly amidst the Vultures, drawn by the rubbish of the city conveyed to this quarter. They likewise frequent the corn-fields and rice-grounds for the same purpose. They also migrate to the Bermudas islands, Cuba, and Jamaica, and penetrate in the course of the winter even to Mexico, Guiana, and Brazil. They are again seen on their return to the North, in Pennsylvania, about the beginning of May or earlier. It is also curious to remark, that nearly all the individuals which thus flock to the South to pass the winter are young birds, as it does not appear that any naturalist in the United States is yet acquainted with the *white*-breasted or adult bird. So strong is the predilection of this species for rocky coasts, that in Holland they are known only to frequent the artificial break-waters which are made of large stones.

The Red Lark (or *Pepit*, from its querulous note,) makes its nest in mountainous countries, even upon the

sterile plains of those which are most elevated, as the Pyrenees and others; more rarely in salt marshes, or in tufts of grass on shelving rocks near the sea. This fabric is made, in the fissures of cliffs, of dry grass, and a little moss, lined with finer blades of the former and a few long hairs. The eggs are 4 or 5, of a sullied white, covered with small brown spots, collected chiefly towards the larger end. The younger birds, or Dusky Lark, breed on the sea-coast of the South of England.

This species is about 7 inches long. Legs chesnut. Lower mandible straight and livid, the upper blackish. Eye hazel. Above (in the adult) greyish-brown, with a darker shade in the centre of each feather. Small coverts of the wings bordered and edged with greyish-white. Spots of the breast, pale greyish-brown. In the *young* the spots below are dark and conspicuous, and the 2 bands on the wings are of a greyish-brown; upon the 1st and 2d primaries there is also a large spot of white.

ORDER FOURTH.

GRANIVOROUS OR PASSERINE BIRDS.

IN these the BILL is strong, short, thick, more or less conic, and advancing back upon the forehead; the ridge of the upper mandible is usually somewhat flattened, and both portions of the bill are generally without the toothed notch. The *feet* are arranged with three of the toes forward and one backward, and the anterior digits are divided. The WINGS are of moderate dimensions.

The general habits of this numerous order of birds are to live in pairs, until by instinct they assemble together and migrate in numerous troops. According to the climates they happen to inhabit, they are either sedentary, or birds of passage. The greater number migrate periodically, or sometimes only accidentally from countries unequally subjected to the influence of frost. Their nourishment consists principally of grain and seeds, from which they usually shell the husk. Insects principally constitute their food during the time they are engaged in raising their progeny, and their young are fed wholly on this kind of diet; all of them, when adult, may be nourished with seeds in a state of captivity. Among all the feathered race, after the Pigeons and Gallinaceous birds, these associate the most freely with man, and are very susceptible of being trained to a domestic state. —

In a few of the European species the moult is double, but the greater number of kinds, inhabiting other countries, usually undergo this double change. The males, among some of the species, put on extraordinary nuptial ornaments, while others, on this occasion, are decorated with a brilliant-colored plumage; all of them, however, in the winter season, assume the humble garb of the female. These remarkable changes take place chiefly among those species which inhabit the warmer countries, as but few of the species in the United States, any more than in Europe, undergo this external transformation. Many of them are distinguished for the melody of their song; and some for their extraordinary docility in education.

LARKS. (ALAUDA, *Lin.*)

IN these the BILL is straight, rather short, and in the form almost of an extended cone; the upper mandible convex and entire, slightly curved, and nearly of equal length with the lower. NOSTRILS at the base of the bill, oval, and covered by the advancing feathers of the forehead. TONGUE bifid. FEET, toes free, *hind nail* nearly straight, and generally longer than the toe. — *Wings* of moderate extent, the spurious feather very short or wanting; the 2d and 3d primaries longest, the first scarcely shorter; secondaries emarginated; two of the scapulars nearly as long as the primaries. The tail is usually forked. Feathers of the head more or less elongated and capable of erection. — *Female* and *young* scarcely different from the adult male.

These birds live in flocks or families, dwelling on the ground, on which they form their nests; they have also the habit of dusting themselves by fluttering on the earth; they feed on seeds, and rarely on insects; fly well, run with rapidity, and sing briskly as they rise almost perpendicularly into the air. The moult is annual. Their flesh is esteemed; and the species are spread almost over the whole globe.

SHORE LARK.

(*Alauda alpestris*, LIN. WILSON, i. p. 85. pl. 5. fig. 4. [female]. Phil. Museum, No. 5190.)

SP. CHARACT. — Reddish-grey, inclining to brown; beneath, except the sides, whitish; throat and stripe over the eye pale-yellow; a broad patch on the breast, and another under and through each eye, with the lateral tail-feathers black; the two outer exteriorly white. — *Female* with the front yellowish, and with black and brown on the top of the head, the black collar on the throat smaller, and the tail terminated by a narrow whitish band.

THIS beautiful species is common to the north of both the old and new continent, but, as in some other instances already remarked, the Shore Lark extends its migrations much further over America than over Europe and Asia. Our bird was met with in the Arctic regions by the late adventurous voyagers, and Mr. Bullock saw them in the winter around the city of Mexico, so that in their migrations over this continent they spread themselves across the whole habitable Northern hemisphere to the very equator; while in Europe, according to the careful observations of Temminck, they are unknown to the south of Germany. Pallas met with these birds round Lake Baikal and on the Wolga, in the 53d degree of latitude. Westward they have also been seen in the interior of the United States, along the shores of the Missouri.

As yet the nest of this wandering species is unknown, and must probably be sought only in the coldest and most desolate of regions. They arrive in the Northern and Middle States late in the fall or commencement of winter, in New England they are seen early in October, and disappear generally on the approach of the deep storms of snow, though straggling parties are still found nearly throughout the winter. In the other States to the South

they are more common at this season, and are particularly numerous in South Carolina and Georgia, frequenting open plains, old fields, common grounds, and the dry shores and banks of bays and rivers, keeping constantly on the ground, and roving about in families under the guidance of the older birds, who, watching for any approaching danger, give the alarm to the young in a plaintive call, very similar to that which is uttered by the Sky-Lark in the same circumstances. Inseparable in all their movements, like the hen and her fostered chickens, they roost together in a close ring or company, by the mere edge of some sheltering weed or tuft of grass on the dry and gravelly ground ; and, thickly and warmly clad, they abide the frost and the storm with hardy indifference. They fly rather high and loose, in scattered companies, and follow no regular time of migration, but move onward only as their present resources begin to fail. They are usually fat, esteemed as food, and are frequently seen exposed for sale in our markets. Their diet, as usual, consists of various kinds of seeds, which still remain on the grass and weeds they frequent, and they also swallow a considerable portion of gravel to assist their digestion. They also collect the eggs and dormant larvæ of insects when they fall in their way. About the middle of March they retire to the North, and are seen about the beginning of May round Hudson's Bay, after which they are no more observed till the return of autumn. They are said to sing well ; rising into the air and warbling as they ascend, in the manner of the Sky-Lark of Europe.

The length of the Shore Lark is something more than 7 inches, and the alar extent about 12. A broad fan-shaped portion of black on the breast, in which as well as in the black spot beneath the eye, the feathers are slenderly edged with pale yellow ; back of the neck and towards the shoulders greyish-brown, tinged with obscure rose-red. Lesser coverts of the wings bright cinnamon ; greater wing-coverts

the same, interiorly dusky and tip with whitish; back and wings rufous-grey, the feathers each with a dusky centre; primaries dusky, tip and edged with whitish; secondaries broadly edged with pale drab, and widely notched at the tips. Tail black and forked, the two middle feathers reddish-grey centered with dusky, the two outer with the exterior webs white; breast with a dusky vinous tinge and marked with very faint greyish spots. Sides streaked with pale reddish-grey. Belly and vent white. Bill dusky. Tongue truncate and bifid. Legs and claws black. Hind-heel very long and almost straight. Iris hazel. — Above the eye-brow on either side of the head there is a tuft of long black feathers which the bird has, at will, the power of erecting like the horns of the owl.

BUNTINGS. (EMBERIZA, *Lin.*)

IN these the BILL is short, robust, conic, somewhat compressed and without notch; the margins contracted inward, a little angular near the base; the upper mandible rounded above, acute, smaller and narrower than the lower; the palate with a longitudinal bony tubercle: the lower mandible rounded beneath and very acute. NOSTRILS basal, small, partly covered by the feathers of the forehead. TARSUS about equal to the middle toe; the lateral toes equal; outer united at base to the middle one. *Wings*, first primary almost equal to the 2d and 3d which are longest. *Tail* even or emarginate.

The *female* differs from the male. The *young* resemble the female, but are darker and more deeply spotted. The European and North American species moult annually. They live in pairs, or move in small families, and feed on farinaceous seeds, and sometimes on insects, which they kill previous to swallowing. They build amidst low bushes and grass; are somewhat musical, and breed several times a year; the eggs being 4 to 6. They extend themselves widely in temperate climates.

SNOW-BUNTING.

(*Emberiza nivalis*, LIN. WILSON, iii. p. 36. pl. 21. fig. 2. [female in winter dress]. Phil. Museum, No. 5900.)

SP. CHARACT.—Quills white on the lower part, black upwards; tail black, the 3 lateral feathers white, 'tipped with blackish; hind nail rather short and curved.—*Male* in full dress, with the head, neck, and beneath white.—In the *female*, *young*, and *male* in winter dress, the white parts are tinged with rufous.

THIS messenger of cold and stormy weather chiefly inhabits the higher regions of the arctic circle, from whence, as the severity of the winter threatens, they migrate, indifferently over Europe, Eastern Asia, and the United States. On their way to the South, they appear round Hudson's Bay in September, and stay till the frosts of November again oblige them to seek out warmer quarters. Early in December, they make their descent into the Northern States in whirling roving flocks, either immediately before, or soon after, an inundating fall of snow. Amidst the drifts, and as they accumulate with the blast, flocks of these *illwars fogel*, or bad-weather birds of the Swedes, like the spirits of the storm, are to be seen flitting about in restless and hungry troops, at times resting on the wooden fences, though but for an instant, as, like the congenial Tartar hordes of their natal regions, they appear now to have no other object in view, but an escape from famine, and to carry on a general system of forage while they happen to stay in the vicinity. At times, pressed by hunger, they alight near the door of the cottage, and approach the barn, or even venture into the out-houses in quest of dormant insects, seeds, or crumbs wherewith to allay their hunger; they are still, however, generally plump and fat, and in some countries much esteemed for the table. In fine weather they appear less restless, somewhat more

familiar, and occasionally, even at this season, they chant out a few unconnected notes as they survey the happier face of nature. At the period of incubation they are said to sing agreeably, but appear to seek out the most desolate regions of the cheerless north in which to waste the sweetness of their melody, unheard by any ear but that of their mates. In the dreary wastes of Greenland, the naked Lapland Alps, and the scarcely habitable Spitzbergen, bound with eternal ice, they pass the season of reproduction, seeking out the fissures of rocks on the mountains in which to fix their nests, about the month of May or June. The exterior of this fabric is made of dry grass, with feathers, and the lining is usually obtained from the scattered down of the Arctic Fox. The eggs are said to be 5, obtuse, whitish, marked with numerous spots of brown and grey. A few are known to breed in the alpine declivities of the White Mountains of New Hampshire. The nest is here fixed on the ground in the shelter of low bushes, and formed nearly of the same materials as that of the Common Song-Sparrow.*

In Europe these birds sometimes migrate in winter in such numbers into Sweden, Siberia, Russia, and the Scottish Highlands, as nearly to cover the country for a great extent. They are less numerous in Britain, and chiefly remain in the North; they also visit Germany, Holland, France, and some parts of Italy. At times they proceed as far south in the United States as the state of Maryland. They are here generally known by the name of the *White* Snow-bird, to distinguish them from the more common dark-bluish Sparrow, so called. They vary in their color, according to age and season,

* For this interesting information, I am indebted to Wright Boott, Esq. who accidentally found a nest of this species, about the middle of July (1831), then containing young.

and have always a great predominance of white in their plumage.

The Snow-Buntings are seen in spring to assemble in Norway and its islands in great numbers ; and, after a stay of about three weeks, they disappear for the season, and migrate across the arctic ocean to the farthest known land. On their return in winter to the Scottish Highlands their flights are said to be immense, mingling, by an aggregating close flight, almost into the form of a ball, so as to present a very fatal and successful mark for the fowler. They arrive lean, but soon become fat ; in Austria they are caught in snares or traps, and, when fed with millet, become equal to the Ortolan in value and flavor. When caged, they show a very wakeful disposition, instantly hopping about in the night when a light is produced. Indulgence in this constant train of action, and perpetual watchfulness, may perhaps have its influence on this species, in the selection of their breeding places within the arctic regions, where, for months, they continue to enjoy a perpetual day.

The food of these birds consists of various kinds of seeds, and the larvæ of insects and minute shell-fish ; the seeds of aquatic plants are also sometimes sought by them, and I have found in their stomachs those of the *Ruppia*, species of *Polygonum*, and gravel. In a state of confinement they shell and eat oats, millet, hemp-seed, and green peas, which they split. They rarely perch, and, like Larks, live much on the ground.

The Snow-Bunting is about $7\frac{1}{2}$ inches in length. The *old male* in summer dress has the head, neck, and all the lower parts, as well as the lesser wing-coverts, and the inferior half of the quills of a pure white. Upper part of the back, the 3 secondary feathers of the wings nearest to the body, the bastard wing, and the upper half of the quills, black. The 3 lateral feathers of the tail white, with black marks towards their ends, the 4th white on the upper part of

the outer vane ; the other tail-feathers black. Bill yellow, blackish towards the point. Feet and claws black. Iris deep brown. — In the *female* all the white of the head, neck, and the region of the ears, shaded with chesnut-brown inclining to tawny ; a sort of half collar on the breast of the same color. The black feathers of the back and the secondaries nearest to the body are all terminated with rufous-white ; the quills and middle tail-feathers are edged and terminated with whitish ; the rest of the plumage is as in the male.

Winter plumage ; the adult male in autumn is clad in the livery of the female. All the black feathers of the back, the wings, and the tail, have then a wide border of ferruginous-grey ; the head, neck, temples, and the breast are stained with light rusty ; upon the rump and tail-coverts are spread some touches of brown and rufous. The greater part of the rufous and reddish-cinereous tints at length disappear by the action of the air, and by the wearing of the ends of the feathers, so that the male by spring appears such as he is described above.

The young of the year, such as they appear when emigrating in autumn, have the crown the color of cinnamon, the auriculars, throat, and wide collar on the breast of a deep rufous, the flanks the same but paler ; the eyebrows and fore part of the neck of a whitish cinereous ; back of the neck greyish-rufous ; the black feathers above are deeply bordered with dark-rufous ; only the middle of the wing and its lower parts of a pure white ; the quills and middle tail-feathers bordered with pale rufous ; the three lateral tail-feathers have each a large black spot. The bill yellowish. — It varies sometimes to pure white, yellowish white, or with the plumage irregularly marked with brown and black.

BLACK-THROATED BUNTING.

(*Emberiza americana*, WILSON, i. p. 54. pl. 3. fig. 2. [male]. *Fringilla americana*, BONAP. Phil. Museum, No. 5952.)

SP. CHARACT. — The breast, line over the eye, and at the lower angle of the bill, yellow ; chin white ; throat with a black patch ; above, chiefly dull ferruginous varied with blackish. — *Female* with little or no black on the breast, nor yellow over the eye.

THESE birds arrive in Pennsylvania and New England, from the South, about the middle of May, and abound in the vicinity of Philadelphia where they seem to prefer

level fields, building their nests on the ground, chiefly of fine withered grass. The eggs are 5 and white, with specks and lines of dark brown or blackish. They also inhabit the prairies of Missouri, the state of New York, the remote northern regions of Hudson's Bay, and are not uncommon in this part of New England, dwelling here, however, almost exclusively in the high, fresh meadows near the salt marshes. Their song, simple and monotonous, according to Wilson, consists only of five notes, or rather two; the first being repeated twice and slowly, the second thrice and rapidly, resembling *tshsp tship, tshe tshe tshé**; with us their call is 'tic 'tic — *tshě tshě tshě tshèp*, and *tship tship, tshě tshě tshě tship*. From their arrival nearly to their departure, or for two or three months, this note is perpetually heard from every level field of grain or grass; both sexes also often mount to the top of some low tree of the orchard or meadow, and there continue to chirp forth in unison their simple ditty for an hour at a time. While thus engaged, they may be nearly approached without exhibiting any appearance of alarm or suspicion, and though the species appears to be numerous, they live in harmony, and rarely display any hostility to the birds around them or amongst each other. In August they become mute, and about the beginning of September depart for the South, wintering probably in some part of Mexico, as they are not seen in the Southern States at any period of the winter. Their food consists of seeds, eggs of insects, and gravel, and in the early part of summer, they subsist much upon caterpillars and small coleopterous insects; they are, also, one among the many usual destroyers of the ruinous canker-worm.

This species is about 6 inches in length. The upper part of the head is of a dusky greenish-yellow; the neck dark ash; inside

* This note, I believe, more properly belongs to the Grass Finch.

shoulders of the wing yellow. Wings dusky-brown, edged with paler; lesser coverts and whole shoulder of the wing bright bay. Belly and vent dull white. Bill bluish, dusky above. Legs and feet light brown. Iris hazel.

Subgenus. — PLECTROPHANES. *Bonap.*

In these the hind nail is long and sometimes almost straight. The tubercle of the palate, not very conspicuous. First and second primaries longest. — Though they moult only annually, the plumage assumes a difference from age and exposure, as the tips of the feathers wear away. — They live in open countries, plains, and mountains, in desert regions, and never seek the shelter of the thicket or the forest; they likewise, in common with Larks, which they resemble in habits, and the length of the hind nail, run with rapidity.

LAPLAND LONGSPUR.

(*Emberiza lapponica*, NILSSON. BONAP. Am. Orn. ii. p. 1. pl. 13.
fig. 1. [male.] fig. 2. [young female.]

SP. CHARACT. — Quills black; 2 outer tail-feathers brownish-black, with a white spot at tip; hind nail very long, straight. — *Adult male*, head and breast black; beneath white; neck above bright rufous. — *Male* in winter, *female* and *young*, blackish skirted with rufous, beneath white.

THIS species generally inhabits the desolate arctic regions of both continents. In the United States a few stragglers from the greater body show themselves in winter in the remote and unsettled parts of Maine, Michigan, and the North-Western Territory. Large flocks also at times enter the Union, and contrary to their usual practice of resting and living wholly on the ground, occasionally alight on trees. In Europe, at the commencement of the inclement season, they penetrate into Germany, France, England and Switzerland, but in all these countries the old birds are never seen. Flocks like clouds descend sometimes into the north and middle of Germany in the fall and winter, and rarely in the spring.

They leave the colder arctic deserts, in the autumn, and are found around Hudson's Bay in winter, not making their appearance there before November. Near Severn river they haunt the cedar trees, upon whose berries they now principally feed. They live in large flocks, and are so gregarious that when separated from their own species, or in small parties, they usually, in Europe, associate with the common Larks, or, in America, they join the roving bands of Snow-Birds. They feed principally on seeds, and also on grass, leaves, buds, and insects. They breed on small hillocks in open marshy fields, and the nest is loosely constructed of moss and grass, and lined with a few feathers. The eggs are 5 or 6, yellowish rusty, somewhat clouded with brown. The Longspur, like the Lark, sings only as it rises in the air, in which, suspended aloft, it utters a few agreeable and melodious notes.

The *male* of this species is about 7 inches long; and 12 in alar extent. Bill yellow, dark at the point. Iris hazel, and the feet dusky. The fore part of the neck, throat, and breast are black, the hind-head bright reddish-rusty; a white line runs from the base of the bill to the eye, behind which it widens and descends on the sides of the neck somewhat round the breast. Belly and vent white. Back and scapulars brownish-black, the feathers skirted with rusty; smaller wing-coverts blackish, margined with white, the greater coverts edged with rufous and tipped with white, forming 2 white bands across the wings. Tail $2\frac{1}{2}$ inches, rather forked, and blackish, the outer feather on each side with a white spot. Hind nail nearly an inch long. — *Female* a little smaller, with the top of the head, shoulders, back, and wing-coverts brownish black, edged with rusty; sides of the head blackish and rusty. Line over the eye tinged with rusty; throat white, encircled with brown; the rest, below, white. — The dress of the *young* and *autumnal* birds vary more or less.

TANAGRAS.

In these the **BILL** is short, robust, hard, in the form of a flattened cone and somewhat depressed at the base; the upper mandible bluntly keeled, curved and notched near the tip, longer, wider, and projecting over the lower; the inferior mandible inflected at the edges. **NOSTRILS** basal, rounded, open, partly covered by the feathers of the frontlet. **TONGUE** short, sharp, and cleft at tip. **TARSUS** rather longer than the middle toe; inner toe united at base to the middle one; hind toe-nail largest. — **WINGS** of moderate dimensions; the 3 first primaries nearly of equal length and longest. — The *female* and *young* differ much from the male in complete plumage, which is subject to great changes according to the season. The moult is half-yearly, and the general colors of the species peculiarly brilliant.

These are active, but not very cautious birds, leading a solitary life, or roving about only in families, and frequenting shady and reclude woods. They are sudden and capricious in their movements, seldom alighting on the ground, flying briskly, and progressing by hops. Their voice is sometimes rather musical, though not generally agreeable. They build in trees; feed indifferently on seeds, berries, and insects, which last they seize on the wing, or collect industriously from the branches of trees. — They are peculiar to America, and chiefly tropical.

 Subgenus. — PYRANGA.

The upper mandible with an obtuse tooth on either side near the middle.

 SCARLET TANAGER OR BLACK-WINGED SUMMER RED-BIRD.

(*Tanagra rubra*, LIN. WILSON, ii. p. 42. pl. 11. fig. 3. [male] and fig. 4. [female]. Phil. Museum, No. 6128.)

SP. CHARACTER. — Scarlet-red; wings and emarginate tail black; the base of the plumage ash, then white. — *Female, young, and autumnal male*, dull green, in the latter inclining to yellow; beneath yellow; wings and tail dusky.

THIS splendid and transient resident, accompanying fine weather in all his wanderings, arrives from his win-

ter station in tropical America, from the beginning to the middle of May, and extends his migrations probably to Nova Scotia as well as Canada. With the shy, unsocial and suspicious habits of his gaudy fraternity, he takes up his abode in the deepest recess of the forest, where timidly flitting from observation, he darts from tree to tree like a flashing meteor. A gaudy sylph, conscious of his brilliance, and the exposure to which it subjects him, he seems to avoid remark, and is only solicitous to be known to his humble mate, and hid from all beside. He therefore rarely approaches the habitations of men, unless perhaps the skirts of the orchard, where he sometimes however, builds his nest, and takes a taste of the early and inviting, though forbidden cherries.

Among the thick foliage of the tree in which he seeks support and shelter, from the lofty branches, at times, we hear his almost monotonous *tship witee*, *tship-idee*, or *tshūkadee*, *tshūkadee* repeated at short intervals, and in a pensive under-tone, heightened by the solitude in which he delights to dwell. The same note is also uttered, by the female, when the retreat of herself and young is approached; and the male occasionally utters in recognition to his mate, as they perambulate the branches, a low whispering *'tait* in a tone of caution and tenderness. But, besides these calls on the female, he has also during the period of incubation, and for a considerable time after, a more musical strain, resembling somewhat in the mellowness of its tones the song of the fifeing Baltimore. The syllables to which I have harkened, appear like *'tshoove* *'wait* *'wait*, *'vehōwit wait*, and *'wait*, *'vehōwit vea wait*, with other additions of harmony for which no words are adequate. This pleasing and highly musical meandering ditty is delivered for hours, in a contemplative mood, in the same tree with his busy consort. If surprised, they flit

together, but soon return to their favorite station in the spreading boughs of the shady oak or hickory. This song has some resemblance to that of the Red-eyed Vireo in its compass and strain, though much superior, the 'wait wait' being whistled very sweetly in several tones, and with emphasis, so that, upon the whole, our *Pyran-ga* may be considered as duly entitled to various excellence, being harmless to the farmer, brilliant in plumage, and harmonious in voice.

The nest of this beautiful bird is built about the middle of May, on the horizontal branch of a shady forest tree, commonly an oak, though sometimes in a tree in the orchard. It is but slightly put together, and usually composed of broken rigid stalks of dry weeds, or slender fir twigs, loosely interlaced together, and partly tied with narrow strips of Indian hemp (*Apocynum*), some slender grass leaves, and pea-vine runners (*Amphicarpa*), or other frail materials; the interior is sometimes lined with the slender, wiry, brown stalks of the Canadian cistus (*Helianthemum*); or with slender pine leaves; and the whole of the substances is so thinly platted, as readily to admit the light through their interstices, thus forming a very clean and airy bed for the brood, well suited for the mildness and warmth of the season in which they are produced. The eggs, 3 or 4, are of a dull blue, spotted with two or three shades of brown or purple most numerous towards the larger end. They only sojourn long enough to rear their single brood, which are here fledged early in July, leaving us already for the South about the middle or close of August, or as soon as the young are well able to endure the fatigue of an extensive migration in company with their parents. The female shows great solicitude for the safety of her only brood, and on an approach to the nest appears to be in great distress and

apprehension. When they are released from her more immediate protection, the male, at first cautious and distant, now attends and feeds them with activity, being altogether indifferent to that concealment which his gaudy dress seems to require, from his natural enemies. So attached to his now interesting brood is the Scarlet Tanager, that he has been known, at all hazards, to follow for half a mile one of his young, submitting to feed it attentively through the bars of a cage, and, with a devotion which despair could not damp, roost by it in the branches of the same tree with its prison ; so strong, indeed, is this innate and heroic feeling, that life itself is less cherished than the desire of aiding and supporting his endearing progeny.

The food of the Scarlet Tanager, while with us, consists chiefly of winged insects, wasps, hornets, and wild bees, as well as smaller kinds of beetles and other shelly tribes ; they probably also sometimes feed on seeds, and are particularly partial to whortleberries, and other kinds which the season affords.

About the commencement of August the male begins to moult, and then exchanges his nuptial scarlet for the greenish yellow livery of the female. At this period they leave us, and having passed the winter in the celibacy indicated by this humble garb, they arrive again among us on its vernal renewal, and so soon after this change, that individuals are at this time occasionally seen with the speckled livery of early autumn, or with a confused mixture of green and scarlet feathers in scattered patches.

The length of this species is about $6\frac{1}{2}$ inches ; and $10\frac{1}{2}$ in alar dimensions. The plumage of the male is of a brilliant scarlet, except the wings and tail, which are black. The tail is forked, and sometimes minutely tipped with white ; the inner edges of the quills are also nearly white. Bill yellowish horn-color. Legs and feet bluish-grey. Iris cream-color. — The female is more green above than the autumnal male.

SUMMER RED-BIRD.

(*Tanagra æstiva*, GM. WILSON, i. p. 95. pl. [6. fig. 3. [male], and fig. 4. [female]. AUDUBON, pl. 44. Orn. Biog. i. p. 232. Phil. Museum, No. 6134.)

SP. CHARACT. — Vermilion-red; inner vanes and tips of the quills tinged with brown; the tail even. — *Female, young, and autumnal male*, yellow-olive, below brownish-yellow; the moulting young spotted with buff.

THIS brilliant and transient resident, like the former species, passes the greatest part of the year in tropical America, from whence in his gaudy nuptial suit, prepared by nature for the occasion, he presents himself with his humble mate in the Southern States in the latter end of April or by the first of May. In Pennsylvania they are but rarely seen, though in the warm and sandy barren forests of New Jersey several pairs may usually be observed in the course of every season; farther north they are unknown, ceding those regions apparently to the scarlet species. They are not confined to any particular soil, though often met with in bushy, barren tracts, and are consequently common even to the west of the Mississippi in Louisiana and the territory of Arkansas, as well as Mexico; they also breed near the banks of that river around Natchez.

The nest is built in the woods on the low horizontal branch of a tree, often in an evergreen 10 or 12 feet from the ground; like that of the former, it is slightly put together, and made of broken, tough, and fibrous weeds, and lined with fine grass. The eggs are from 3 to 5, and of a light blue color, according to Wilson. Both parents assist in incubation, and the young are fledged by the middle or latter end of June. They only raise a single brood in the season; and towards the middle or close of August, the whole party disappear on their way

to the South ; though the young remain later than the old and more restless birds.

The note of the male, like that of the Baltimore Bird, is said to be a strong and sonorous whistle, resembling the trill or musical shake on the fife, and is frequently repeated. The note of the female is more of a chattering, and appears almost like the rapid pronunciation of *tshicky-tukky-tuk*, *tshicky-tukky-tuk*, and is chiefly uttered in alarm when any person approaches the vicinity of her nest. From the similarity of her color to the foliage of the trees, she is, however, rarely seen, and usually mute ; while the loquacity and brilliance of the male render him, as he flits timidly and wildly through the branches, a most distinguished and beautiful object.

The food of the Summer Red-Bird is very similar to that of the preceding species ; bugs, beetles, and stinging bees make part of his repast, as well as flies and cynips of various kinds, after which they often dart about until hindered by the approach of night. This habit, however, is probably necessary from the almost nocturnal manners of some of these insect tribes. After the period of incubation, and until their departure, whortleberries and other kinds of berries form no inconsiderable part of their food.

The male of this species is $7\frac{1}{4}$ inches, the alar extent about 12. He is of a rich vermilion color, most brilliant below, except the inner vanes and tips of the wings, which are tinged with brown. The legs and feet are pale greyish-blue, inclining to purple. The iris light hazel.—The *Female* is above of a brownish yellow-olive, below brownish-yellow.

LOUISIANA TANAGER.

(*Tanagra ludoviciana*, WILSON, iii. p. 27. pl. 20. fig. 1. Phil. Museum, No. 6236.)

SP. CHARACT. — Yellow ; anterior part of the head orange-scarlet ; back, wings, and tail black ; wings with 2 yellow bands.

THIS species was first made known by the exploring party of Lewis and Clark. It is a frequent inhabitant of the extensive prairies or grassy plains of Upper Missouri, and is seen occasionally as low as the cantonment of Major Long, or but a little beyond the line of settlements. They are continually flitting over these vast downs, occasionally alighting upon the stems of tall weeds, or the bushes which border only the streams, and in which, as well as in the grass, they build their nests. From their almost terrestrial habits, it is evident they must derive their food chiefly from the insects they find near, or on the ground, as well as from the seeds of the herbage in which they principally dwell ; they also probably feed on the grasshoppers with which these plains abound ; and are upon the whole a common and numerous species west of the Mississippi, remaining in that country nearly until the approach of October. For amusement, they are frequently shot with bow and arrows by the Indian boys, in defect of more important game. Though I have seen many of these birds throughout the season, I have no recollection of hearing them utter any modulated or musical sounds ; and they appeared to me like Sparrows, shy, flitting, and almost silent.

The length of this bird is about $6\frac{1}{2}$ inches. Bill yellowish horn-color. Legs greyish-blue. Tail slightly forked, and edged with dull whitish. — The *female* or *young* bird had the wings and back brownish.

FINCHES. (FRINGILLA, *Lin.*)

In these birds the BILL is short, robust, conic on all sides, and generally without notch; upper mandible wider than the lower, somewhat turgid, and a little inclined at tip; without keel, depressed at the upper part, and often prolonged into an angle entering the feathers of the forehead. NOSTRILS basal, round, covered by the feathers of the frontlet. TONGUE thick, acute, compressed, and bifid at tip. *Feet*, tarsus shorter than the middle toe; toes disconnected to the base; hind nail largest. — *Wings* short; 1st and 2d primaries but little shorter than the 3d or 4th, which is longest.

The *male* differs from the female principally in the breeding season. The *young* in the 2d season resemble the adult; and the European and North American species generally moult only once in the year; those of warmer climates usually undergo a double moult.

These birds live on all sorts of seeds and grain, which they shell before swallowing; at times they also add insects to their fare; they inhabit all parts of the world, and are particularly numerous in the warmer regions; they are prolific, raising several broods in the season, and display often considerable art in the fabrication of their nests, which are usually built in trees and bushes. They flock together in considerable numbers, and migrate in bands; live in woods and thickets, and are familiar often in gardens and orchards; many alight also on the ground, in quest of their multifarious, but principally vegetable food. Of all the winged tribes, after Pigeons and Gallinaceous birds, these are the most easily accustomed to the domestic state, and many are esteemed for the vigorous music of their song, which is often a loud and ringing trill; some of them have likewise been taught to perform a variety of actions evincing an extraordinary degree of docility.* The North American species are divided into 4 subgenera by Prince C. Bonaparte, which all, at the same time, pass insensibly into each other.

§ 1. *With the palate rather prominent, and sometimes with the rudiment of a tubercle.*

* For an account of which see the Introduction, pp. 21, 22.

Subgenus. — SPIZA. (*Bonap.*)

With the edges of the lower mandible narrowed in.

† *Species allied to Tanagra.* With the bill somewhat curved.

LAZULI FINCH.

(*Fringilla amæna*, BONAP. Am. Orn. i. p. 61. pl. 6. fig. 5. *Emberiza amæna*, SAY. Phil. Museum, No. 5919.)

SP. CHARACTER. — Verdigris-blue; beneath white; breast pale reddish ferruginous; wings with 2 white bars; the bill notched. — *Young and female?*

FOR the first notice of this beautiful bird we are indebted to Mr. Say, who met with it in Long's expedition. It was observed, though rarely in the summer months, along the banks of the Arkansas, near to the base of the Rocky Mountains, frequenting the bushy valleys, keeping much in the grass after its food, and but seldom alighting on the trees or shrubs. It greatly resembles the Indigo Bird; yet its note is wholly different.

The length of this Finch is $5\frac{3}{4}$ inches. Head, neck, and rump, bright verdigris-blue; the back brownish-black, mixed with blue and with touches of rusty-brown. Superior part of the breast pale ferruginous, inclining to rose-red; lower part of the breast, belly, and inferior tail-coverts white; quills blackish, obscurely margined with blue externally; under wing-coverts whitish with some mixture of blue. Tail slightly notched, blackish, edged with blue on the outer vanes, and with white on the inner webs at tip. The dress of the *female* and *young* is unknown.

INDIGO BIRD.

(*Fringilla cyanea*, WILSON, i. p. 100. pl. 6. fig. 5. [male]. BONAP. ii. pl. 11. fig. 3. [female]. AUDUBON, pl. 74. Orn. Biog. i. p. 277. Phil. Museum, No. 6002.)

SP. CHARACTER. — Bright blue with a green reflection; wings and tail dusky, the latter edged with blue. — *Female* brownish flaxen,

beneath pale yellowish-white. — *Young* and *autumnal male*, as the female, but more tinged with bluish.

THIS very beautiful and rather familiar messenger of summer, after passing the winter in tropical America, towards the 15th of May, decked in his brilliant azure livery, of the nuptial season, again joyfully visits his natal regions, in the Middle States; and about a week or ten days later his lively trill in the garden, orchard, or on the top of the house, its chimney, or vane, is first heard in this part of New England. Still later, accompanied by his mate, he passes on to Nova Scotia, and probably to the precincts of Labrador. After raising and training their only brood, in an uniform and more humble dress, the whole family, in color like so many common Sparrows, begin to retire to the South from the first to the middle of September. They are also known in Mexico, where, as well as in the Southern States to the peninsula of Florida, they probably breed and pass the summer as with us. There is reason, however, to believe that they are less abundant, if seen at all, to the west of the Mississippi; but yet they are met with in the Western States up to the alluvial lands of that great natural boundary.

Their food in the early part of the season, as well as that of their young for a considerable time, is chiefly insects, worms, and caterpillars, as well as grasshoppers, of which they are particularly fond. They likewise eat seeds of various kinds, and are readily reared in a cage on the usual diet of the Canary.

Though naturally shy, active, and suspicious, particularly the brilliant male, they still, at this interesting period of procreation, resort chiefly to the precincts of habitations, around which they are far more common than in the solitary woods, seeking their borders, or the thickets

by the sides of the road ; but their favorite resort is the garden, where, from the topmost bough of some tall tree, which commands the whole wide landscape, the male regularly pours out his lively chant, and continues it for a considerable length of time. Nor is this song confined to the cool and animating dawn of morning, but it is renewed and still more vigorous during the noon-day heat of summer. This lively strain seems composed of a repetition of short notes, commencing loud and rapid, and then, slowly falling, they descend almost to a whisper, succeeded by a silent interval of about half a minute, when the song is again continued as before. The most common of these vocal expressions sounds like *tshe tshe tshe* — *tshé tshéc tshée* — *tshé tshê tshe*. The middle syllables are uttered lispingly in a very peculiar manner, and the three last gradually fall ; sometimes it is varied and shortened into *tshea tshea tshea tshrèh*, the last sound being sometimes doubled. This shorter song is usually uttered at the time that the female is engaged in the cares of incubation, or as the brood already appear, and when too great a display of his music might endanger the retiring security of his family. From a young or imperfectly moulted male, on the summit of a weeping willow, I heard the following singularly lively syllables, *tle tle tle tă lee*, repeated at short intervals. While thus prominently exposed to view, the little airy minstrel is continually on the watch against any surprise, and if he be steadily looked at or hearkened to with visible attention, in the next instant he is off to seek out some securer elevation. In the village of Cambridge, I have seen one of these azure, almost celestial musicians, regularly chant to the inmates of a tall dwelling-house from the summit of the chimney, or the point of the forked lightning-rod. I have also heard a Canary, within hearing, repeat and

imitate the slowly lisping trill of the Indigo Bird, whose warble indeed, often greatly resembles that of this species. The female, before hatching her brood, is but seldom seen, and is then scarcely distinguishable from a common Sparrow ; nor is she ever to be observed beyond the humble bushes and weeds in which she commonly resides.

The nest of our bird is usually built in a low bush, partly concealed by rank grass or grain ; I have also seen one suspended in a complicated manner in a trellised grape-vine in a garden ; and, being left undisturbed, it built near the same spot the succeeding year. When in a bush, the nest is suspended betwixt two twigs, passing up on either side. Externally it is composed of coarse sedge-grass, some withered leaves, and lined with fine stalks of the same, and the slender hair-like tops of the bent-grass (*Agrostis*), with a very few cow-hairs, though sometimes they make a substantial lining of hair. The nest which I saw, in the vine, was composed outwardly of coarse strips of bass-mat, weeds, and some strings picked up in the garden, and lined with horse-hair and a few tops of bent-grass. The eggs, about 5, are greenish white, and without any spots. (Wilson speaks of a blotch of purple at the great end.) The young here scarcely leave the nest before the end of July, or the first week in August ; and they raise probably but a single brood in the season. They appear to show great timidity about their nest, and often readily forsake it when touched, or when an egg is abstracted. Their usual note of alarm, when themselves or their young are approached, is a sharp *tship*, quickly and anxiously repeated, resembling almost the striking of two pebbles. They will not forsake their young, however ready they may be to relinquish their eggs ; and they have been known to feed their brood very faithfully through the bars of a cage in which they were confined.

The length of this species is from 5½ to 6 inches, and 7 to 8 in alar dimensions. Above, the body is of a bright sky-blue, deepening on the head and throat to an ultramarine; the rest of the blue, by reflection in certain lights, appears of a luminous verdigris-green. Wings and tail dusky, the former edged with bluish-grey, the latter with blue; the tail forked, beneath presenting a pale silvery reflection; coverts of the wings black, broadly edged and tipped with blue, lesser coverts blue and black at the base, lining of the wing blue, near the body grey, only tinged with that color. Upper mandible black, the lower paler towards the point, (in young birds pale horn-color.) Legs and feet dusky. — *Female* of a flaxen color tinged with pale ferruginous, the wings and tail dusky-brown, the latter edged with greyish-blue. Cheeks and below pale ferruginous-white, darker at the sides; about the rump, lower part of the back, and upper wing-coverts tinged with pale bluish-green; the lower mandible very pale.

PAINTED BUNTING OR FINCH.

(*Fringilla ciris*, TEMM. AUDUBON, pl. 53. Orn. Biog. i. p. 279.

Emberiza ciris, WILSON, iii. p. 68. pl. 24. fig. 1. [male] and fig. 2. [female]. Phil. Museum, No. 6062 and 6063.)

SP. CHARACT. — Vermilion-red; head and neck above purplish-blue; back yellowish-green; wings dusky-red; lesser coverts purple; the greater, and the tail, green. — *Female* and *young* of the first season, green-olive; beneath Naples yellow. [The young gradually change until the 4th or 5th year?]

THIS splendid, gay, and docile bird, known to the Americans as the *Nonpareil*, and to the French Louisianians as the *Pape*, inhabits the woods of the low countries of the Southern States, in the vicinity of the sea, and along the borders of the larger rivers, from North Carolina to Mexico. They arrive from their tropical quarters in Louisiana and Georgia from the middle to the 20th of April. Impatient of cold, they retire to the South early in October, and are supposed to winter about Vera Cruz. For the sake of their song as well as beauty of plumage, they are commonly domesticated in the

houses of the French inhabitants of New Orleans and its vicinity ; and some have succeeded in raising them in captivity, where plenty of room was allowed in an aviary. In England they have been known to build and lay their eggs in the orange trees of a menagerie. They are familiar also in the gardens and orchards, where their warbling notes are almost perpetually heard throughout the summer. Their song much resembles that of the Indigo Bird, but their voice is more feeble and concise. Soon reconciled to the cage, they will sing even a few days after being caught. Their food consists of rice, insects, and various kinds of seeds ; they collect also the grains of the ripe figs, and, frequenting gardens, build often within a few paces of the house, being particularly attached to the orangeries.

Their nests are usually made in the hedges of the orange, or on the lower branches of the same tree, likewise occasionally in a bramble or thorny bush. Externally they are formed of dry, withered grass, blended with the tenacious silk of caterpillars, lined with hair, and internally finished with fine fibrous roots. The eggs are 4 or 5, white, or pearly, and marked with dark purplish brown spots. In the mildest climates in which they pass the summer, they raise two broods in the season. They are commonly caught in trap-cages, to which they are sometimes allured by a stuffed bird, which they descend to attack ; and they have been known to survive in domestication for upwards of ten years.

The Nonpareil is about $5\frac{3}{4}$ inches long, and $8\frac{3}{4}$ in alar extent. Back and scapulars glossy yellow, stained with green, and in old birds with red. Tail slightly forked, purplish brown (generally green). Legs and feet leaden-grey. Bill black above, plain greyish-blue below. Iris hazel. — *Female* a little less. — In the *male*, in the 2d season, the blue on the head appears ; in the next year the

yellow is seen on the back and rump, as well as the red below in spots; the colors are completed only in the 4th year.

NOTE. Those who have kept these birds in England are of opinion that they gain their complete and varied plumage sooner even than the third year.

† † *Species of Fringilla, allied to Emberiza.*

WHITE-CROWNED BUNTING OR FINCH.

(*Fringilla leucophrys*, TEMM. *Emberiza leucophrys*, WILSON, iv. p. 49. pl. 31. fig. 4. [male]. Phil. Museum, No. 6587.)

SP. CHARACTER. — The head white, line surrounding the crown and through each eye black; beneath pale ash; vent pale ochreous; chin white; wings dusky, with 2 white bands.

THIS rare and handsome species is very little known in any part of the United States, a few stragglers only being seen about the beginning of winter, and again in May or earlier, on their way back to their Northern breeding-places, said to be in the country round Hudson's Bay, which they visit from the South in May, and construct their nests in June in the vicinity of Albany fort and Severn river. These are fixed on the ground, or near it, in the shelter of the willow trees which they glean, probably with many other birds, for the insects which frequent them. The eggs, 4 or 5 in number, are said to be of a dusky or chocolate color. Their flight is short and silent, but, probably, near the nest, like our familiar Song-Sparrows, they sing with melody. As they depart from the Bay in September, it is probable that they winter in the Canadian provinces, otherwise, as passengers further south, they would be seen more abundantly in the United States than they are. Indeed, as they approach this part of New England only in small desultory parties in the winter, as in November and December, it is evident, that they only migrate a short distance in quest of food, and return to the North at the

approach of fine weather. While here they appear silent and solitary, and are not difficult to approach. Their food, as usual, is seeds of grasses, insects, and their larvæ.

The length of this species is $7\frac{1}{2}$ inches; alar extent about 10. The back streaked with dark rusty-brown and pale bluish-white; the wings dusky, edged broadly with brown; 2 white bands produced on the wing by the broad white tips of the greater and lesser wing-coverts; tertials black, edged with brown and white. Rump and tail-coverts drab tinted with lighter. Tail long, rounded, dusky, broadly edged with drab; belly white; vent pale ochreous. Bill cinnamon-brown. Legs and feet, about the color of the bill, but lighter. Iris reddish-hazel. — In the *female* the white on the head is less pure, the black smaller in extent, and the ash on the breast darker; she is also somewhat less.

LARK FINCH.

(*Fringilla grammacea*, SAY. BONAP. Am. Orn. i. p. 47. pl. 5. fig. 3. Phil. Museum, No. 6288.)

SP. CHARACT. — Head striped with black and whitish; tail rounded, the lateral feathers partly white; a white patch on the wing; above greyish-brown with dusky spots.

For this species we are again indebted to Mr. Say, who observed it in abundance near the Council Bluffs and the neighbouring country of the Missouri in the spring as well as in the month of June. It appears to be wholly confined to the west side of the Mississippi, and probably extends to Mexico. They frequent the prairie grounds, and seldom if ever alight on trees; they sing sweetly, and, like Larks, have the habit of continuing their notes while on the wing.

This species is $6\frac{1}{2}$ inches long. On the top of the head there are 2 widish dark lines, passing into ferruginous behind and separated from each other by a light grey line; another whitish line extends from the base of the upper mandible over the eye to the sides of the neck; another small, interrupted, almost similarly colored line passes from the bill beneath the eye; a broadish space of umber extends

from the mouth over the auriculars; and then from the base of the lower mandible extends another broad, curving, white line ascending towards the ears; another very dark, unequal line stretches from the same mandible along the sides of the throat, which last with the chin is, apparently, of a cream white. The neck and breast dull cinereous, a dusky brownish spot on the latter; belly and vent nearly white. Above cinereous umber-brown, the back feathers centred with a more dusky hue, and the wings and tail edged with very pale brown; 2d primary longest; a white angular spot on the wing. A white spot on all the tail-feathers but the 2 central ones, increasing in size to the outer. Bill pale horn-color. Legs and feet pale yellowish-brown. Iris dark-brown. — The *female* is duller in color.

WHITE-THROATED SPARROW.

(*Fringilla pennsylvanica*, LATH. AUDUBON, pl. 8. Orn. Biog. i. p. 42. *F. albicollis*, WILSON, iii. p. 51. pl. 22. fig. 2. [male]. Phil. Museum, No. 6486.)

SP. CHARACT. — The head striped with dusky and white; a yellow line from the nostril to the eye; shoulder of the wing edged with greenish-yellow; cheeks and breast cinereous; throat and belly white; above varied with dusky, bay, and light brown. — *Female*, below, and stripes on the head, light drab.

THIS large and handsome Sparrow is seen in this part of Massachusetts, only as a transient visitor at the approach of winter, or in spring, about the first week in May. In the Middle and Southern States, they pass the inclement season, and appear there as a numerous species. A flock even of these birds has been observed in the state of New York in the month of January. In their hibernal resorts, they are seen in bands, and show a predilection for thickets, swamps, small streams, and the borders of ponds, where, among the tall and bleaching weeds, they continue to collect the seeds, and probably insect larvæ, which constitute their usual fare. While here they keep much on the ground, and seek out cool and shady situations, scratching up the fallen leaves in

quest of worms and other insects, and are at this time often very unsuspicious, allowing a near approach without betraying any alarm; but when in large flocks, they move about in timorous haste as soon as approached. About the 15th of April, they leave the Middle States, and probably retire to the high northern latitudes to breed, having been seen in Newfoundland in summer; but of their nest and eggs we are ignorant. At the period of breeding, the male is probably musical, as already in the early spring, before their departure to the North, on fine mornings, they are heard to whisper forth a few sweet and clear notes, as in a reverie of the approaching happiness of their more lively and interesting condition.

The length of this species is about 7 inches; the alar dimensions 9 to 9½. A stripe of white or whitish passes from the base of the upper mandible to the hind-head, which is bordered on either side by a stripe of brownish-black; another pale line passes over the eye, becoming yellow between that and the nostril; this line is again bordered by a narrow stripe of brownish-black proceeding from the lower angle of the eye. Tail somewhat wedge-shaped. Legs pale flesh-color. Bill bluish horn-color, pale beneath. Iris hazel.

BAY-WINGED OR GRASS FINCH.

(*Fringilla graminea*, GMEL. AUDUBON, pl. 94. Orn. Biog. i. p. 473.

Emberiza graminea, WILSON, iv. p. 51. pl. 31. fig. 5.)

SP. CHARACT. — Breast and flanks spotted with brown; lesser wing-coverts bay; the 2 outer tail-feathers partly white; above brownish-grey, varied with dusky.

THIS plain-looking Finch chiefly frequents dry pastures and meadows, and is often seen perched on the fences and in the orchard trees; it also frequently approaches the public roads and gathers its subsistence tamely from various sources. It is abundant in the Middle States, where many pass the whole year, yet great numbers also winter in the southern parts of the Union,

proceeding as far as the maritime districts of Georgia. From the commencement of April to the beginning of June, they sing with a clear and agreeable note, scarcely inferior to that of the Canary, though less loud and varied. On their first arrival, as with the Song Sparrow, their notes are often given in an under tone of considerable sweetness. Their song begins at early dawn, and is again peculiarly frequent after sun-set until dark, when, from the fence of some elevated pasture-field, in the cool of the summer evening, when other songsters have retired to rest, the Grass Sparrow, more than usually wakeful, after a silence which has perhaps continued nearly through the warmer part of the day, pipes forth his clear and slender, though now almost monotonous song, near to the favorite spot where his mate hatches or fosters her tender brood; and from all the neighbouring meadows, at this silent hour, as the last rays of the sun are reflected from the dusky horizon, we hear a constant repetition of an echoing and shrill *tsh 'tsh 'tshê te tshête tshête*, with warbling tones blended and varied, at the beginning and close of this simple, rather pensive, but agreeable ditty. They are more common in fields than thickets, and run along the ground in the manner of the Lark. They likewise frequent ploughing fields, searching on the ground for insects, and are very fond of dusting themselves and basking in dry places.

The nest is built on the ground, in tufted grass, sunk below the surface, well concealed, and formed principally of withered, wiry grass, also lined with the same and some hair. The eggs, 4 or 5, are flesh-colored white, with 2 or 3 shades of reddish-brown confluent spots, chiefly disposed at the greater end. Being nearly sedentary, they raise probably several broods in the season. Sometimes when started from the nest, the female simu-

lates lameness with remarkable dexterity so as very readily to draw off the attention of her enemies or intruders. The young are easily raised from the nest, and become very tame, clean, and domestic, but readily quarrel with each other.

The length of the Grass Finch is about 6 or $6\frac{1}{4}$ inches, and $10\frac{1}{2}$ in alar dimensions. Primaries edged with whitish. Tail partly wedged, the outer feather almost wholly white, except towards the base of the inner web; the next feather white on the outer vane, and (sometimes) also with a spot of the same color. Breast and flanks white, tinged with very pale brown, and spotted with dark pointed spots along the shafts of the feathers; belly and vent white; 2d and 3d primaries longest. Bill above dusky, notched near the tip; beneath paler. Legs and feet pale flesh-color. Tarsus $\frac{3}{4}$ of an inch. — *Female* hardly distinguishable from the male; the spots of the breast somewhat fewer and smaller.

AMBIGUOUS SPARROW.

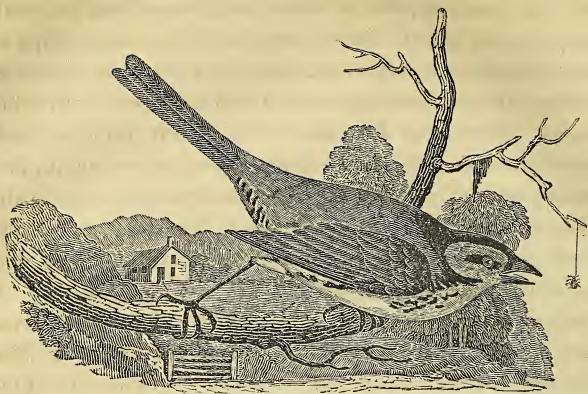
(*Fringilla *ambigua*, NOBIS.)

OBSERV. — Dusky brownish-grey, varied with edgings of brownish-white; below yellowish-white, faintly spotted with dull grey; rump grey; chin without spots; tail immaculate, cuneiform; 3d primary much longer than the 5th; legs and feet very robust. A young bird. Adult?

OF this very distinct, and plain, mouse-colored Sparrow, I, at present, know scarcely any thing, excepting that it was shot in this vicinity (Cambridge) in the early part of the summer of 1830. The specimen is in fresh plumage; and in its general color, both above and below, with the very unusual length and pointedness of the wings, and the distinct graduation of the feathers, it might, without looking at the bill, be at once taken almost for the common Pewee. The only American species, to which it bears any affinity, is the Cinereous Finch of Aoonalashka, and the Dusky Grosbeak of Pennant, but it is still sufficiently different.

This bird is in fact a congener of the Cow-Troopial, an *Icteria*; yet it differs essentially from the young of that species, not only in the colors of the plumage, but in that of the bill and legs, which are not black. The bill is also narrower at the sides. The size is likewise much smaller. May not this be the offspring of the white and more sparingly spotted egg, deposited, occasionally in the nests of the Cow Bird's nurses? I saw one of these foundlings soon after hatching, this summer, in the nest of a Wilson's Thrush; it was then clothed in a pale almost *whitish-grey* down, and already differed from the ordinary parasite; but the nest was robbed soon after this occurrence, and I am yet unable to offer any thing certain upon the subject, excepting, that the eggs are easily, and certainly, recognizable from all others.

The Long-Winged or Mouse-colored Sparrow is $6\frac{1}{2}$ inches in length. Length of the closed wing from the summit of the shoulder to the point $3\frac{3}{4}$, (or $\frac{3}{4}$ of an inch longer than in the preceding species.) Tarsus 1 inch, (in the Bay-winged Sparrow $\frac{3}{4}$ of an inch.) Bill yellowish-brown, rather long and robust, without notch. Legs and feet very stout, pale brown; the claws short, thick, and rather blunt. Above, of an almost uniform brownish-grey, the tail only being a shade deeper; most of the feathers below the neck and down to the rump are just sensibly terminated by a slight edge of dull brownish-white; the coverts, tertials, and wing-feathers more broadly margined with the same; the 1st primary longest, the 2d and 3d but little shorter; the 4th, 5th, and 6th rapidly decreasing; the 1st longer than the 5th by $\frac{5}{8}$ of an inch! (in the preceding species the 1st and 5th are not very different in length.) Inner lining of the wing dusky. Tail plain dusky-grey and cuneiform. Beneath pale yellowish-white, the chin without spots, below to the belly thickly clouded with shaded ill-defined pale dusky spots. The rump almost plain dark grey. — The *long* wings, *stout* legs, and *plain* color, at once distinguish this from all other North American Sparrows. The specimen is, however, a young bird, and may undergo some alteration of plumage.



COMMON SONG-SPARROW.

(*Fringilla melodia*, WILSON, ii. p. 125. pl. 16. fig. 4. AUDUBON, pl. 25. Orn. Biog. i. p. 123. *F. fasciata*? GMEL. Phil. Museum, No. 6573.)

SP. CHARACT. — Crown chesnut, divided by a greyish line; breast and flanks spotted with blackish-brown; tail cuneiform, unspotted; 1st primary shortest: body above varied with blackish, chesnut, and olive-grey.

THIS familiar and almost domestic bird is one of the most common and numerous Sparrows in the United States; it is, also, with the Blue-Bird, which it seems to accompany, one of the two earliest, sweetest, and most enduring warblers. Though many pass on to the Southern States at the commencement of winter, yet a few seem to brave the colds of New England, as long as the snowy waste does not conceal their last resource of nutriment. When the inundating storm, at length, arrives, they no longer, in the sheltering swamps, and borders of bushy streams, spend their time in gleaning an insufficient subsistence, but in the month of November, begin to retire to the warmer states; and here, on fine days,

even in January, whisper forth their usual strains. As early as the 4th of March, the weather being mild, the Song-Sparrow and the Blue-Bird here jointly arrive, and cheer the yet dreary face of nature with their familiar songs. The latter flits restlessly, through the orchard or neighbouring fields; the Sparrow, more social, frequents the garden, barn-yard, or road-side in quest of support, and from the top of some humble bush, stake, or taller bough, tunes forth his cheering lay, in frequent repetitions, for half an hour or more at a time. These notes have some resemblance to parts of the Canary's song, and are almost uninterruptedly and daily delivered, from his coming till the commencement of winter. When he first arrives, while the weather is yet doubtful and unsettled, the strain appears contemplative, and often delivered in a peculiarly low and tender whisper, which, when hearkened to for some time, will be found more than usually melodious, seeming as a sort of reverie, or innate hope of improving seasons, which are recalled with a grateful, calm, and tender delight. At the approach of winter, this vocal thrill, sounding like an Orphean farewell to the scene and season, is still more exquisite, and softened by the sadness which seems to breathe almost with sentiment, from the decaying and now silent face of nature. Our songster, never remarkable for sprightliness, as the spring advances, delivers his lay louder and more earnestly. He usually begins with a *tsh'* *tsh' tshé te tshěte tshěte*, and blends in a good deal of quivering notes. Individuals also excel, and vary their song from time to time with very agreeable effect; and it is only because our familiar vocalist is so constantly heard and seen, that so little value is set upon his agreeable, cheerful, and faithful performance. When not attached to the garden, our Sparrow seems fond of

frequenting low bushy meadows, streams, swamps, and watery situations, which afford him ready shelter, and his usual food of worms, insects, larvæ, and seeds. Such situations are also their favorite resorts, when, in gregarious and miscellaneous flocks with other congeneric kinds, they are seen to crowd the sheltered marshes of the Southern States. They are also commonly seen nimbly running along the ground, and gliding through low thickets in quest of their insect fare; and in fine weather they dust themselves, and bask in the sun. They often likewise frequent the water, being fond of washing; and sometimes are seen to swim across small streams, particularly when disabled from flying, by a gun-shot wound.

This species appears to abound from Canada to the Southern States, and breeds probably more or less in all the intermediate region. It builds usually on the ground, a little below the level, under a tuft of grass, or in a low bush, and occasionally in an evergreen, as the red cedar, 4 or 5 feet from the ground. Sometimes pushed for a situation of sufficient concealment from enemies, I have known it make a nest in the hole of a decayed trunk, 5 or 6 feet from the ground. It is usually formed of a considerable portion of fine dry grass, neatly put together, and mostly lined with horse-hair. The eggs, 4 or 5, are greenish or bluish-white, thickly spotted with one or two shades of brown, the spots sometimes larger, and chiefly disposed towards the larger end; at other times, very small and numerous, scattered over the greater part of the surface. They are very prolific, raising as many as 3 broods in a season, the young being occasionally hatched, in the Middle States, from the close of April to the end of August. They are very solicitous for the safety of their young, keeping up at this time often a tiresome chirping; and on the destruction of

the female and most of her young, I have known the remaining male, with unceasing and anxious attention, raise a solitary survivor of his ruined family, with the most devoted affection. As they keep the young and their habitation so very clean, and are so prolific, it is a matter of surprise, that they do not re-occupy the premises; instances are, however, not wanting in which they have been known to raise two broods in the same nest. Both parents join in the duty of incubation, and alternately feed each other while so engaged.

The Song-Sparrow is about $6\frac{1}{2}$ inches long, and $8\frac{1}{2}$ in alar extent. Head chesnut and dusky, obscurely divided by a grey line; line over the eye ash, becoming nearly white towards the bill; stripe from the lower mandible, opening of the mouth, and posterior angle of the eye, dark chesnut. Breast and flanks pointedly spotted with chesnut, the spots centered with black. Chin, belly, and vent white, the last obscurely and faintly spotted with pale chesnut. Tail $2\frac{3}{4}$ inches long, brown, the upper feathers centered with dusky. Wings pale dusky, coverts dusky-brown and bay, edged with greyish-white, tertials darker; under-coverts, or lining, and the ridge of the shoulder white; 3d and 4th primaries longest; 1st primary much shorter than the 6th. Legs flesh-colored. Iris hazel. Bill above dusky, below purplish. — The *female* scarcely differing in plumage.

SAVANNAH SPARROW.

(*Fringilla Savanna*, WILSON, iv. p. 72. pl. 34. fig. 4. [male], and iii. p. 55. pl. 22. fig. 3. [female.] *Fringilla hiemalis*? GMEL. LATH. PENNANT, No. 254. [young.] Phil. Museum, No. 6583, 6584.)

SP. CHARACT. — Line over the eye and ridge of the wings yellow; breast and flanks spotted with blackish; tail emarginate, extending about an inch beyond the tips of the closed wings; 1st primary equal to the 2d: above varied with blackish, brown and grey, or white. — *Female* darker. — *Young* without the yellow marks, and with the spots of the breast greyish-dusky.

THIS Sparrow, allied to the preceding, but far less familiar, is commonly seen in this part of New England

from April to October ; migrating towards the South in severe weather, though many pass the whole winter in the Middle States. In Georgia and West Florida they are rather numerous at this season, migrating in quest of food probably from the West ; and the whole species generally show a predilection for the warm and sheltered vicinage of the sea, where the seeds and insects they feed on are most abundant. On their first arrival in Massachusetts, they frequent the sandy beaches and shores of the bays in quest of *Cicindela* and other coleopterous insects, which frequent such situations ; and they are at this time exceedingly fat, though their moult is not completed. In summer this shy and timid species lives wholly in pasture or grass fields, and often descends to the ground in quest of food. Its nest, also laid in the grass, very similar to that of the Song-Sparrow, is usually built about the close of April.

In the month of March, in Georgia, I observed these Sparrows in the open grassy pine woods, on the margins of small swamps or galls. On being suddenly surprised, they often flew off a little distance, and then, if followed, descended to the ground and ran and hid closely in the tall tufts of grass. Their notes, at this time, were very long, piping, and elevated, and resembled often *tshé tship tship tship tship tship*, then *tshe ch' tsh' tsh' tsh' tsh'* and *tsh' tsh' tsh' tsh' tsh'*. Some of these notes were as fine and lively as those of the Canary, loud, echoing, and cheerful. At times, this species also utters a note almost exactly similar to the chirpings of a cricket, so that it might easily be mistaken for that insect.

The length of this species is about 6 inches, and 9 in alar dimensions. (The *female* about $5\frac{1}{2}$ inches long.) The head is dusky-brown, with some shades of bay, and divided indistinctly in the centre by a yellowish-white line. The rest of the plumage above is a

mixture of dusky brownish-black, with grey, white, or bay edgings to the feathers, the white edgings chiefly on the upper part of the back. Wings and tail dusky, edged with whitish, the tail only 2 inches long, with the feathers pointed. Chin white; sides of the neck, breast, and flanks with dark pointed spots edged with bay. Belly white. Inner ridge of the wings touched with pale yellow; tertials very dark; (the black predominates much more in this than in the preceding species.) Legs pale flesh-color, the hind claw long and sharp. Bill above dusky, below purplish, inclining to yellow, notched slightly near the point. — *Male* with more white on the chin, breast, and sides of the face.

NOTE. There is little doubt, but that the young of this species is the *F. hiemalis* of Gmelin and Pennant, though the wing-coverts are not edged with real white; Wilson's name, however, must remain, as the Linnæan *hiemalis* is also a synonyme of the Snow-Bird.

COMMON SNOW-BIRD.

(*Fringilla nivalis*, LIN. (*F. hudsonia*), WILSON, ii. p. 129. pl. 16. fig. 6. [in winter plumage,] *F. hiemalis*, AUDUBON, pl. 13. Orn. Biog. i. p. 72. Phil. Museum, No. 6532.)

SP. CHARACT. — Bluish-black, inclining to grey; belly and lateral tail-feathers white.

THIS hardy and very numerous species, common to both continents, pours in flocks from the northern regions into the United States about the middle of October, where their appearance is looked upon as the presage of approaching winter. At this season they migrate into the Southern States in great numbers, and seem to arrive in augmenting hosts with the progress of the wintry storms and driving snows, before which they fly for food rather than shelter; for, even during the descent of the whitening inundation, and while the frightful tempest still rages without abatement, these hardy and lonely wanderers are often seen flitting before the blast; and, seeking advantage from the sweeping current, descend to collect

a scanty pittance from the frozen and exposed ground, or stop to collect the seeds, which still remain upon the unshorn weeds, rising through the dreary waste. At such times they are also frequently accompanied by the Snow Bunting, the humbly dressed Yellow Bird, and the querulous Chicadee. Driven to straits, however, by hunger, they at length become more familiar, and are now seen about the barns and out-houses, spreading themselves in busy groups over the yard, and even approaching the steps of the door in towns and cities, and glean- ing thankfully from the threshold any crumbs or acciden- tal fragments of provision. Amidst all this threatening and starving weather, which they encounter almost alone, they are still lively, active, and familiar. The roads, presenting an accidental resource of food for these north- ern swarms, are consequently more frequented by them than the fields. Before the severity of the season com- mences, they are usually only seen moving in families ; and the parents, watchful for the common safety, still continue by reiterated chirpings to warn their full-grown brood of every approach of danger, and, withdrawing them from any suspicious observation, wander off to se- curer ground. At this time they frequent the borders of woods, seek through the thickets and among the fallen leaves for their usual food of seeds, and dormant insects, or their larvæ. Their caution is not unnecessary, for on the skirts of the larger flocks the famished Hawk prowls for his fated prey, and descending, with a sudden and successful sweep, carries terror through all the wander- ing and retreating ranks.

In the latter end of March or beginning of April, as the weather begins to be mild, they reappear in flocks from the South, frequenting the orchard trees, or retreat- ing to the shelter of the woods, and seem now to prefer

the shade of thickets or the sides of hills, and frequently utter a few sweet, clear, and tender notes, almost similar to the touching warble of the European Robin Red-breast. The jealous contest for the selection of mates already also takes place; soon after which they retire, mostly to the remote northern or arctic regions to breed; though, according to Wilson, many also remove only to the high ranges of the Alleghany Mountains, where, in the interior of Virginia, and towards the western sources of the Susquehanna, they also breed in great numbers; fixing their nests on the ground, or among the grass, the pairs still associating in near communion with each other.

In Europe this species dwells almost wholly among the wild recesses of the Alpine Mountains of Switzerland, the Pyrenees, and the high northern chains on the limits of the region of perpetual ice! In the winter, less driven by necessity, or less encouraged by the inviting scope of an extensive continent, they there only migrate into the mountainous countries, and rarely descend into the plains. Their food is also observed to be insects, pine seeds, and those of aquatic plants. They likewise nest upon the rocks, or in their crevices, and lay 3 to 5 eggs, of a pale green, scattered with irregular touches and points of cinereous, blended with spots of dark green.

The Snow-Bird is $6\frac{1}{2}$ to 7 inches long. The general color is bluish or leaden black, inclining to grey; the lower parts from the breast to the tail white. Three secondary quills next the body edged with pale brown, the primaries with white. Tail dusky, emarginate. Bill and legs pale yellowish flesh-color in winter; in summer the bill is black, and the feet brown. Iris bluish-black. — *Female* and young tinged with brown. — By the wearing of the edges of the feathers, in the course of the season, the male becomes of a deeper and clearer color.

SAVANNA FINCH, OR YELLOW-SHOULDERED SPARROW.

† (*Fringilla sasanarum*, GMEL. LATHAM, i. p. 443. No. 31. and Synopsis, iii. p. 270. No. 27. *F. passerina*, WILSON, iii. p. 76. pl. 24. fig. 5. Phil. Museum, No. 6585.)

SP. CHARACT. — Breast pale brownish-yellow; line over the eye, shoulder, and lesser wing-coverts yellow; tail-feathers rather pointed, the outer partly whitish.

THIS small Sparrow is a summer resident in the United States, and is likewise, according to Sloane, a common species in the savannas or open glades of the island of Jamaica. From what little is known of it, as a bird of the United States, it appears to remain on the sheltered plains of the sea-coast of New York and New Jersey until the very commencement of winter. It is also observed in the lower parts of Pennsylvania, and about the middle of May or later, they are occasionally seen in the gardens of this vicinity, on their way apparently to some other breeding station. On these occasions they perch in sheltered trees in pairs, and sing in an agreeable voice somewhat like that of the Purple Finch, though less vigorously. In the West Indies, they live much on the ground, and run like Larks, flying low when flushed, and soon alighting. Their nest is likewise fixed on the ground, among the grass, where they collect their usual fare of seeds and insects. It is made of loose, dry stalks of dead grass, and lined with hair and root-fibres. The eggs, 5, are of a greyish-white, spotted with brown, and the female has been observed sitting as late as the 1st of August. They probably retire to the West Indies or Mexico to pass the winter, as they are not seen at this season in any of the Southern States.

The length of this species is from $4\frac{1}{2}$ to 5 inches, alar extent about 8. Upper part of the head blackish, divided by a slight pale line;

hind-head and neck with touches of dusky-brown and white; cheeks brownish-white; back varied with blackish, brown, and pale ash; shoulders of the wings above and below, and lesser coverts of the same, olive-yellow; primaries and tail, drab, the feathers of the latter rather pointed; breast without spots, yellowish-white with a tinge of brown. Belly and vent white. Legs flesh-color. Bill dusky, pale bluish-white below. — The two sexes are nearly alike.

TREE SPARROW.

(*Fringilla canadensis*, LATH. *F. arborea*, WILSON, ii. p. 123. pl. 16. fig. 3. Phil. Museum, No. 6575.)

Sp. CHARACTER. — Crown bright bay; stripe over the eye, sides of the neck, chin, and breast, pale ash; wings with two white bars; bill black, the lower mandible yellow; legs and feet dusky; 1st primary shorter than the 5th and 2d.

THIS handsome winter Sparrow arrives from the northern regions in New England about the close of October, withdrawing from Hudson's Bay and the neighbouring countries some time in the month of September. The species, consequently, like many more of our *Fringillas*, only measures his speed by the resources of subsistence he is able to obtain, and thus straggling southward, as the winter advances, he enters Pennsylvania only about the beginning of November; there, as well as in the maritime parts of Massachusetts, and perhaps as far south as Virginia, the Tree Sparrow is often seen associated with the hardy Snow-Birds, gleaning a similar kind of subsistence; and when the severity of winter commences, leaving the woods, gardens, and uplands in which he is an occasional visitor, he seeks in company the shelter of some bushy swamp, thickly shaded brook, or spring. Near Fresh Pond, in this vicinity, they are at that season numerous, and roost together near the margin of the reeds, almost in the society of the Black-birds, who seek out a similar place of warmth and shelter as the chilling frosts begin to prevail.

At this cool and gloomy season, and down to the close of the first week in November, as they pass from branch to branch, and play capriciously round each other, they keep up almost perpetually a low and pleasant liquid warble, not much unlike that of the Yellow Bird (*Fringilla tristis*), but less varied. Sometimes two or three at the same time will tune up *s'weedit s'weedit weet*, and *s'waidit s'waidit weet*, accompanied by some tremulous trilling and variation, which though rather sad and querulous, is heard at this silent season with peculiar delight. In summer, during the breeding-time, it is likely they express considerable melody.

According to Mr. Hutchins, they breed around the Hudson's Bay settlements, making a nest in the herbage, formed externally of mud and dry grass, and lined with soft hair or down, probably from vegetables, in the manner of the Yellow Bird. The eggs, about 5, are said to be pale brown, marked with darker spots of the same color. About the beginning of April, they leave the Middle States for their summer quarters, and arrive around Severn river in May; they also probably propagate in Newfoundland, where they have been observed. With us, they are still seen in numbers to the 19th of April.

The Tree Sparrow is about 6 to $6\frac{1}{4}$ inches long, at the most, and 9 to $9\frac{1}{2}$ in alar extent. — The whole upper part of the head bright bay without any dividing line; sometimes this color, however, is slightly skirted with grey; stripe over the eye white at its commencement near the mandible, backwards fading into pale ash-color; the centre of the breast marked with an obscure spot of dark brown partly hidden beneath the other feathers. From the lower angle of the bill, and behind the eye, proceeds a small stripe of chesnut. Sides under the wings and towards the belly pale brown. The back varied with brownish black, bay, and drab; lower part of the back and rump pale greyish-brown; lesser wing-coverts deep ash-color; wings dusky, the primaries edged with dull white as well as the tail, the

secondaries with pale brown; the 1st and 2d row of coverts broadly edged with bright bay and tipped with *white*. Tail dusky, forked, more than $2\frac{1}{2}$ inches long; centre of the belly and vent white. Bill black, the under mandible yellow below the tip, $\frac{3}{8}$ of an inch long. Legs dusky brown, feet almost black, and robust.

CHIPPING SPARROW.

(*Fringilla socialis*, WILSON, ii. p. 127. pl. 16. fig. 5. Phil. Museum, No. 6571.)

SP. CHARACT. — The 4 first primaries nearly of a length; frontlet black; crown chesnut; chin and line over the eye whitish; breast and sides of the neck, pale ash; bill black; legs and feet slender, pale flesh-color; hind nail shorter than the toe.

THIS species, with the Song-Sparrow, is probably the most numerous, common, and familiar bird in the United States; inhabiting from Labrador to the table land of Mexico, and westward to the banks of the Missouri. Aware of the many parasitic enemies of the feathered race which it has to encounter, who prowl incessantly, and particularly in quest of its eggs, it approaches almost instinctively the precincts of houses, barns, and stables, and frequently ventures into the centre of the noisy and bustling city to seek, in the cultivated court, an asylum for its expected progeny. Soon sensible of favor or immunity, it often occupies with its nest the thick shrubs of the garden within a few yards of the neighbouring habitation, by the side perhaps of a frequented walk, in the low rose-bush, the lilac, or any other familiar plant affording any degree of shelter or security, and will at times regularly visit the threshold, the piazza, or farm yard for the crumbs which intention or accident may afford it. On other occasions, the orchard trees are chosen for its habitation, or in the lonely woods, an evergreen, cedar, or fir is selected for the purpose. It makes no pretensions to song, but merely chips, in complaint,

when molested, or mounting the low boughs of some orchard tree or shrub, utters a quickly articulated ascending 'tsh 'tsh 'tsh 'tsh 'tsh *tshe tshe*, almost like the jingling of farthings, and a little resembling the faint warble of the Canary, but without any of its variety or loudness. This-note, such as it is, is continued often for half an hour at a time, but is little louder than the chirping of a cricket, and uttered by the male while attending his brooding mate. For many weeks, through the summer, and during fine weather, this note is often given from time to time in the night like the reverie of a dream.

The nest of the Chipping Bird varies sometimes considerably in its materials and composition. The external layer, seldom so thick, but that it may be readily seen through, is composed of dry stalks of withered grass, and lined more or less with horse or cow hair. The eggs are 4 and 5, of a bright though not deep greenish-blue color, with a few spots of dark and lighter brown chiefly disposed at the greater end. They are usually narrowed considerably at the small end, though occasionally they are almost oblong. The Cuckoo destroys many eggs of this timid, harmless, and sociable little bird, as their nests are readily discovered, and numerous; on such occasions, the little sufferer expresses great and unusual anxiety for the security of her charge, and after being repeatedly robbed, the female sits closely sometimes upon perhaps only two eggs, desirous at any rate to escape, if possible, with some of her little offspring.

Towards the close of summer, the parents and their brood are seen busily engaged collecting seeds and insects, in the neighbouring fields and lanes, and now become so numerous, as the autumn advances, that, flitting before the path on either side as the passenger proceeds, they almost resemble the falling leaves of the season,

rustling before the cheerless blast ; and finally, as their food fails, and the first snows begin to appear, advertised of the threatening famine, they disappear and winter in the Southern States. In the month of January, in Georgia, during the continuance of the cool weather, and frosty nights, I frequently heard, at dusk, a confused chirping or piping, like that of frogs, and, at length, discovered the noise to proceed from dense flocks of the Chipping Sparrows, roosting or huddling near together in a pile of thick brush ; where, with the Song-Sparrow, also, they find means to pass the cool nights.

This species is about 5 to $5\frac{1}{2}$ inches in length, and 8 in alar extent. The frontlet is nearly black ; chin and line over the eye whitish ; crown chesnut ; the breast and sides of the neck pale ash ; rump dark cinereous ; belly and vent white. Back varied with brownish-black and bay. Wings dusky, broadly edged with bright chesnut. Tail dusky, forked, edged with yellowish-white. Bill in winter black, in summer the lower mandible is flesh-colored. Legs and feet pale flesh-color, tarsus $\frac{5}{8}$ of an inch.—The *female* has less black on the frontlet, and the bay duller.

FIELD OR RUSH SPARROW.

(*Fringilla junco*, NOBIS. *Sylvia junco*, LATH. ii. p. 511.

Little Brown Sparrow, CATESBY, Car. i. p. 35. *F. pusilla*, WILSON, ii. p. 121. pl. 16. fig 2. Phil. Museum, No. 6560.)

SP. CHARACTER.—The 1st primary shorter than the 6th ; crown chesnut ; body above varied with bay, drab, and a little dusky ; cheeks, throat, and breast, pale brownish drab ; bill and slender legs, brownish cinnamon-color, the latter paler ; hind nail as long as the toe.

THIS small species, in size and general color, is scarcely distinguishable from the Chipping Sparrow ; it is however much brighter, inclining more to bay above, and the tail is about half an inch longer in relative proportion.

The Small Brown Sparrow arrives in Pennsylvania and New England from the Southern States, where it passes the winter, in the beginning of April. It is with us a shy, wild, and retiring species, partial to dry hills and pastures, and open, bushy, secluded woods, living much in trees. In autumn, indeed, the pair accompanied by their brood in small flitting flocks, leave their native wilds, and glean, at times, in the garden or orchard; yet but little is now seen of them, as they only approach cultivated grounds a few weeks before their departure. These Sparrows, if indeed they are the same as those described by Wilson, in winter, flock together in great numbers in the Southern States, and mingling with the Chipping Birds, and other species, they now line the roads, fences, and straggling bushes, near the plantations in such numbers, as, with their sober and brown livery, to resemble almost a shower of rustling and falling leaves, continually haunting the advancing steps of the traveler, in hungry, active flocks, driven by the storms of winter into this temporary and irksome exile. But, no sooner does the return of early spring arrive, than they flit entirely from the Southern wilds, to disperse in pairs and seek out again their favorite native regions of the North.

The nest of this species, built on the ground, in the mere shelter of some grassy tuft or accidental small bush, is made often wholly of the fine stalks of dried grass; sometimes it is lined also with horse-hair. The eggs, 5 or 6, are so thickly sprinkled with ferruginous as to appear almost wholly of that color. They raise usually two broods in a season in the Middle States.

Our little bird has a pretty loud and shrill note, which may be heard at a considerable distance, and possesses some variety of tone and expression. Sometimes it is

something like *twē twēe twái*, *tw 'tw 'tw 'tw 'tw 'tw*, beginning loud and slow, and going up and down, shrill and quick, with a reverberating tone almost as rapid as the drumming of the Ruffed Grouse. At other times the sound appears like *te de de de de d' d' d' d' d' d' dr'*, rapid and echoing; then *weet weet weed wat tè 'd 'd 'd 'd 'd 'd*, also *weet weet weet weet, wt' wt' wt' wt' trr*; the whole of these notes rising and running together into a short trill, something like the song of the Canary, but less varied, and usually in a querulous or somewhat plaintive tone, though towards the close of summer, I have heard individuals, nearly as musical and warbling as the Common Yellow-Bird. These tones are also somewhat similar to the reverberations of the Chipping Bird, but quite loud and sonorous, and without the changeless monotony of that species. In fact, our bird would be worthy a place in a cage as a songster of some merit. Like most of the Sparrows, the food of this species consists of seeds and insects, and they also search the leaves and branches at times in quest of moths, of which they appear fond.

The Field Sparrow is about $5\frac{3}{4}$ inches long. (In the New England male bird) the head is simply chesnut without any dividing line, and the brownish tint beneath very obscure, the color being more of a dirty white; the belly, breast, and vent are almost pure white. Above chesnut predominates, though the feathers are edged with drab, and lined in the centre with dusky; greater wing-coverts edged and tipped with brownish-white; rump drab, inclined to brown. Tail, from the insertion of the rump nearly 3 inches, dusky, forked, and edged with whitish. First primary shorter than the 6th, the 3d longest. Bill reddish cinnamon-color, a hard knob in the upper mandible as in *Emberiza*. Legs and feet pale yellow, scarcely inclining to brown, the tarsus $\frac{3}{4}$ of an inch.

SWAMP SPARROW.

(*Fringilla georgiana*, LATH. i. p. 460. No. 86. *F. palustris*, WILSON, iii. p. 49. pl. 22. fig. 1. [male]. AUDUBON, pl. 64. Orn. i. p. 331. Phil. Museum, No. 6569.)

SP. CHARACT. — The 1st primary shorter than the 6th ; front blackish ; crown bay, undivided ; line over the eye, sides of the neck, and breast, ash-color ; bill robust, dusky, the lower mandible yellowish towards the base ; legs and feet very stout, the hind nail longer than the toe ; tarsus $\frac{7}{8}$ of an inch.

THE aquatic habits of this common though little known species is one of its most remarkable peculiarities. In New England they arrive from the Southern States, where they winter, about the middle of April, and take up their summer residence in the swamps and marshy meadows, through which, often, without flying, they thread their devious way with the same alacrity as the Rail, with whom they are indeed often associated in neighbourhood. In consequence of this perpetual brushing through sedge and bushes, their feathers are frequently so worn that their tails appear almost like those of rats, and are very often flirled in the manner of the Wagtail. Occasionally, however, they mount to the tops of low bushes or willow trees and chant forth a few trilling, rather monotonous minor notes, resembling, in some measure, the song of the preceding species, and appearing like *twé tw' tw' tw' tw' twé*, and *twl' tw'l' tw tw' twé*, uttered in a pleasant and somewhat varied warble. These notes are uttered with considerable effort, and sometimes with a spreading of the tail. In the spring, on their first arrival, this song is delivered with much spirit, and echoes through the marshes like the trill of the Canary. The sound now resembles the syllables *'tw 'tw 'tw 'twec 'twec 'tw 'twe 'twe*, or *'tshp 'tshp 'tshe 'tsh 'tsh 'tsh 'tsh*, beginning loud, sweet, and somewhat plaintive, and the

song is continued till late in the morning, and after sunset in the evening. This reverberating tone is again somewhat similar to that of the Chipping Sparrow, but far louder and more musical. In the intervals he descends into the grassy tussucks and low bushes in quest of his insect food, as well as to repose out of sight; and, while here, his movements are as silent and secret as those of a mouse. The rice plantations and river swamps are their favorite hibernal resorts in Louisiana, Georgia, and the Carolinas; here they are very numerous, and skulk among the canes, reeds, and rank grass, solicitous of concealment, and always exhibiting their predilection for watery places. In the breeding-season, before the ripening of many seeds, they live much on the insects of the marshes in which they are found, particularly the smaller coleopterous kinds, *Carabi* and *Curculiones*.

They form their nests in the ground, often in the shelter of some dry tussuck of sedge or other rank grass, in the midst of the watery marsh in which they dwell. Their eggs are 4 or 5, of a dirty white, spotted with reddish brown. They probably raise 2 or 3 broods in the season, being equally prolific with our other Sparrows. They express extreme solicitude for their young, even after they are fully fledged and able to provide for themselves; the young also, in their turn, possess uncommon cunning and agility, running and concealing themselves in the sedge of the wet meadows. They are quite as difficult to catch as field mice, and seldom on these emergencies attempt to take wing. We have observed one of these sagacious birds dart from one tussuck to another, and at last dive into the grassy tuft in such a manner, or elude the grasp so well, as seemingly to disappear or burrow into the earth. Their robust legs and feet, as

well as long claws, seem purposely provided to accelerate this clinging and running on the uneven ground.

The length of the Swamp Sparrow is about 6 inches; (I have measured young birds $5\frac{1}{2}$), and about 8 in alar dimensions. The crown bright bay, margined behind and in front with blackish; back of the neck dark grey; the anterior portion of the line passing over the eye is whitish, inclining to ash; chin whitish; a stripe of blackish proceeds from the lower mandible, and another from the posterior angle of the eye. Back blackish-brown, the feathers margined with light bay, and some touches of yellowish-white; wing-coverts bright bay and a little black, without any edgings of whitish. Wings and tail dusky, the primaries edged with brownish-white, the secondaries with bay; 3d and 4th primaries the longest. Belly and vent brownish-white (in the female nearly white). Bill dusky, the lower mandible yellowish below. Iris dark hazel. Legs very stout and long, and, as well as the feet, pale brownish horn-color; claws strong and sharp. — *Young* spotted with black and olive-brown, not bay, the breast also streaked with dusky.

SHORE FINCH.

+ + (*Fringilla *littoralis*, NOBIS. *Oriolus caudacutus*, LATH. Orn. i. p. 186. No. 43. *F. caudacuta*, WILSON, iv. p. 70. pl. 34. fig. 3. Phil. Museum, No. 6442.)

SP. CHARACT. — Two stripes of brownish-orange, inclining to buff on each side of the head; breast pale buff with small blackish spots; tail wedge-shaped with the feathers acute.

THE Shore Finch is an inhabitant of the low islands and marshy sea-coasts from New York to Georgia, living on small shrimps, marine insects, and probably grass-seeds, moving through the rank herbage nearly with the same agility and timidity as the Swamp Sparrow, to which, in the structure of the feet and stoutness of the bill, it bears considerable affinity. These birds are not rare, though not so numerous as the Maritime Sparrow, with which they commonly associate.

The Shore Finch is about $5\frac{1}{4}$ inches long, and $7\frac{1}{4}$ in alar extent. Back yellowish-brown olive, some of the feathers edged with semi-

circles of white. Wing-coverts and tertials brown-black, broadly edged with pale rufous. Tail short, wedge-shaped, all the feathers sharply pointed. Chin whitish; breast yellowish-white, with pointed dark spots; belly white; vent and rump dark buff; the former spotted with dusky. From the base of the upper mandible a broad stripe of cinereous extends over the crown to the hind-head, bordered on either side by one of dusky-brown. Bill dusky. Legs pale brownish-yellow. Iris hazel.

† SHARP-TAILED FINCH.

† (*Fringilla caudacuta*, LATH. Index Ornith. i. p. 459. No. 85.)

SP. CHARACT.— Varied with brown and pale rufous, throat of the latter color and a line of the same over the eyes; neck behind darkish rufous; tail even, the feathers sharp-pointed; bill and legs pale.

THIS species, described by Latham as coming from Georgia, known also by the name of Spotted Grey Sparrow, appears to possess the same lowly habits as the two preceding species, living chiefly among the grassy herbage, and probably near the coast. It has yet, however, escaped all our ornithologists. Our Sparrows do not change their plumage so much at any period, as to give any probability to the opinion, that this bird may be a variety of the preceding. Besides, the length of this individual, only $4\frac{1}{2}$ inches, is incompatible with the size of the Shore Finch. With much doubt it is quoted by Prince Bonaparte as a synonyme for *Fringilla savanarum*; the feathers of the tail, however, in this species, are scarcely at all pointed.

SEA-SIDE FINCH.

+ (*Fringilla maritima*, WILSON, iv. p. 68. pl. 34. fig. 2. AUDUBON, pl. 93. Orn. i. p. 470.)

SP. CHARACT.— Stripe over the eye and edge of the shoulder yellow; breast cinereous; belly white; vent buff, spotted with dusky; tail rounded; bill rather stout and long.

THIS species is not uncommon in the maritime marshy grounds, and in the sea islands along the Atlantic coast, from Massachusetts to the Southern States. It confines its excursions almost wholly within the bounds of the tide-water, leaving its favorite retreats for more inland situations only after the prevalence of violent easterly storms. In quest of marine insects, crustacea, shrimps, and minute shell-fish, it courses along the borders of the strand with all the nimbleness of a Sandpiper, examining the sea-weeds and other exuviæ for its fare; it seeks out its prey also at dusk, as well as at other times, and usually roosts on the ground, like the Lark. In short, it derives its whole subsistence from the margin of the ocean; and its flesh is even imbued with the rank or fishy taste to be expected from the nature of its food. At other times it remains amidst the thickest of the sea-grass, and climbs upon the herbage with as much dexterity as it runs on the ground. Its feet and legs, for this purpose, are robust, as in the Swamp Sparrow. According to Audubon, they nest on the ground, in the bushy parts of the salt marshes which are elevated above the flow of the tides. This habitation is made of coarse grass and lined with finer portions of the same. The eggs are 4 to 6, greyish-white, speckled over with brown. They appear to rear two broods in the season.

The length of this species is $6\frac{1}{4}$ inches. Chin white, bordered by a cinereous stripe; crown brownish-olive, with a stripe of cinereous. Above yellowish-brown olive, varied with pale greyish-blue; greater and lesser coverts tipped with dull white; primaries edged with yellow beneath the coverts. Bill dusky above, paler below. Legs and feet pale bluish-white. Irids hazel. — The sexes nearly alike.

§ II. *In these species the palate is scooped and grooved.*

Subgenus. — CARDUELIS.

The bill somewhat lengthened, narrower than the head, straight, and compressed ; both mandibles acute.

YELLOW-BIRD, OR AMERICAN GOLDFINCH.

(*Fringilla tristis*, L. WILSON, i. p. 20. pl. 1. fig. 2. [male.] BONAP. Am. Orn. i. p. 57. pl. 6. fig. 4. [female.] AUD. pl. 33. Orn. i. p. 172.

SP. CHARACT. — Wings black, varied with white ; tail-feathers black, interiorly white towards the tips. — *Male*, in summer dress, yellow ; crown black. — *Female*, *young*, and *autumnal male*, brown-olive ; beneath yellowish-white.

THIS common, active, and gregarious Goldfinch is a very general inhabitant of the United States. It is also found in summer in the remote interior of Canada, near Lake Winnipique, in the 49th degree of latitude. On the other hand it is also met with in Mexico, and even in Guiana and Surinam in tropical America, where they frequent the savannas. Although many of these birds, which spend the summer here, leave at the approach of winter, yet hungry flocks are seen to arrive in this part of New England throughout that season ; and sometimes, in company with the Snow Buntings, in the inclement months of January and February, they may be seen busily employed in gleaning a scanty pittance from the seeds of the taller weeds, which rise above the deep and drifted snows. As late as the 15th of September I have observed a nest of the Yellow-bird, with the young still unfledged. Their migrations are very desultory, and do not probably extend very far, their progress being apparently governed principally by the scarcity or abundance of food with which they happen to be supplied. Thus, though they may be numerous in the depth of winter, as soon as the weather relaxes, in the month of March, scarcely any

more of them are to be seen, having at this time, in quest of sustenance, proceeded probably to the southern extremity of the United States. Those observed in tropical America, may be hibernal wanderers from the cooler parts of Mexico. At all events, they select the milder climates of the Union, in which to pass the breeding season, as at this time they are but rarely seen in the Southern States, Kentucky being about the boundary of their summer residence.

Naturally vagrant and wandering, they continue to live in flocks, or in near vicinage, even throughout the greatest part of the selective season. As the fine weather of spring approaches, they put off their humble winter dress, and the males, now appearing in their temporary golden livery, are heard tuning their lively songs as it were in concert, several sitting on the same tree, enjoying the exhilarating scene, basking and pluming themselves, and vying with each other in the delivery of their varied, soft, and cheerful warble. They have also the faculty of sinking and raising their voices in such a delightful cadence, that their music at times seems to float on the distant breeze, scarcely louder than the hum of bees; it then breaks out, as it were, into a crescendo, which rings like the loud song of the Canary. In cages, to which they soon become familiar and reconciled, their song is nearly as sonorous and animated as that of the latter. When engaged in quarrel, they sometimes hurl about in a whole flock, some, as it were, interfering to make peace, others amused by the fray, all uttering loud and discordant chirpings. One of their most common whining calls, while engaged in collecting seeds in gardens, where they seem to be sensible of their delinquency, is, 'mäy bé, 'mäy bé. They have also a common cry like 'tsheveet 'tshevee, uttered in a slender complain-

ing accent. These, and some other twittering notes, are frequently uttered at every impulse, while pursuing their desultory waving flight, rising and falling as they shut or expand their laboring wings. They are partial to gardens and domestic premises, in the latter end of summer and autumn, collecting oily seeds of various kinds and shelling them with great address and familiarity, if undisturbed often hanging and moving about head downwards, to suit their convenience, while thus busily and craftily employed. They have, like the true Goldfinch, a particular fondness for thistle seeds, and those of other compound flowers, spreading the down in clouds around them, and at this time feeding very silently and intently; nor are they very easily disturbed while thus engaged in the useful labor of destroying the germs of these noxious weeds. They do some damage occasionally in gardens, by their indiscriminate destruction of lettuce and flower seeds, and are therefore often disliked by gardeners; but their usefulness, in other respects, far counterbalances the trifling injuries they produce. They are very fond, also, of washing and bathing themselves in mild weather; and as well as tender buds of trees, they sometimes collect the *Confervas* of springs and brooks as a variety to their usual fare.

They raise sometimes two broods in the season, as their nests are found from the first week in July to the middle of September. The nests are often built in tall young forest trees or lofty bushes, as in the sugar maple, elm, spice-bush, and cornel. They are made of strips of bass, hemlock bark, and root fibres, with a filling, at times, of withered downy stalks of apple-tree leaves, old oak catkins, and other softish rubbish; then bedded and lined within with thistle down, the pappus of the button-wood (*Platanus*), or sometimes cow-hair, and fine

bent-grass. A few lint-threads of Indian hemp and caterpillars' silk, are occasionally thrown over the exterior materials, and agglutinated to them for the purpose of more securely holding the whole together. They never make use of any external patches of *lichen*, nor use this substance in any manner; and the eggs, 3 to 5, are white, *without any spots*. This description is taken from 8 nests of the same bird, which, with 3 or 4 more not inspected, were all made towards the close of summer, chiefly in the Botanic Garden at Cambridge. I have, the present season (1831), examined several more nests agreeing with the above description; and from the late period at which they begin to breed, it is impossible that they can ever act in the capacity of nurses to the Cow Troopial. This procrastination appears to be occasioned by the lack of sufficiently nutritive diet, the seeds on which they principally feed not ripening usually before July.

The American Goldfinch is never less than 5 inches in length; of a rich lemon-yellow, but nearly white on the rump and vent, and a little paler on the upper part of the back. The crown, wings, and tail, black; the shoulder and its coverts olive-yellow, fading into white; the greater coverts and tertials tipped and edged with white; the tail handsomely forked, with the feathers acute at the points, and shaded off into white on the inner webs towards their tips. The bill and legs pale reddish-yellow, the latter much fainter. — In the month of September the male moults into a new and humble dress of brownish olive, nearly similar to that of the female; the wing-coverts and tertials are now edged with white, slightly tinged with rufous. At this time, the bill and feet are brownish. Some males are provided with a white wing-spot, visible only when the coverts are elevated.

ARKANSAS SISKIN.

(*Fringilla psaltria*, SAY. BONAP. Am. Orn. i. p. 54. pl. 6. fig. 3.
[male]. Phil. Museum, No. 6278.)

SP. CHARACTER. — Olivaceous; beneath wholly yellow; crown, wings, and tail black; a white wing-spot; lesser wing-coverts dusky

olive ; 3 outer tail-feathers white on the middle of the inner web, black at tip.

THIS species, first described by Mr. Say, was met with in the month of July, near the base of the Rocky Mountains, south of the river Platte, and probably exists in Mexico. As usual, it lives in trees and bushes, sings sweetly, and much in the manner of the Yellow-Bird. The specimen was a male ; the female, and any other vesture of plumage, are unknown.

The Arkansa Siskin is $4\frac{1}{4}$ inches long. Crown black ; cheeks dusky olive ; neck, back, and rump olivaceous, mingled with dusky and yellowish ; upper tail-coverts black, varied with olive. Beneath pure yellow. Wings brownish-black, smaller wing-coverts the same, but slightly tinged with blue, and edged with olive ; greater wing-coverts tipped with white, forming a bar across the wing ; 3d to the 7th primaries white towards the base, producing a white spot beyond the coverts ; first 4 primaries nearly equal, 5th shorter ; the secondaries broadly margined with white exteriorly towards their tips. Tail blackish, slightly emarginated, edged with dull whitish ; the 3 exterior feathers pure white on the middle of their inner vanes. Bill yellowish, tipped with blackish. Feet flesh-color. Irids dark brown.

PINE FINCH.

(*Fringilla pinus*, WILSON, ii. p. 133. pl. 57. fig. 1. [winter plumage]. Phil. Museum, No. 6577.)

SP. CHARACTER. — Dark flaxen, spotted with blackish ; wings black, with 2 yellowish-white bars ; shafts of the quills yellow ; lateral tail-feathers yellow on the lower half.

OUR acquaintance with this little northern Goldfinch is very unsatisfactory. It visits the Middle States in November, frequents the shady, sheltered borders of creeks and rivulets, and is particularly fond of the seeds of the hemlock tree. Among the woods, where these trees abound, they assemble in flocks, and contentedly pass away the winter. Migrating for no other purpose but subsistence, their visits are necessarily desultory and

uncertain. My friend, Mr. Oakes, of Ipswich, has seen them in large flocks in that vicinity in winter. With us they are rare, though their favorite food is abundant. They are by no means shy, and permit a near approach without taking alarm, often fluttering among the branches in which they feed, hanging sometimes by the cones, and occasionally uttering notes very similar to those of the American Goldfinch. Early in March they proceed to the North, but their summer dress and breeding habits are wholly unknown.

The length of this species is said to be 4 inches; and the alar extension 8. Rump and tail-coverts yellowish, spotted with dark-brown; sides, under the wings, cream-color, with long streaks of black; breast light flaxen, with small pointed spots of blackish. Bill dull horn-color. Legs purplish-brown. Irids hazel.

LESSER RED-POLL.

(*Fringilla linaria*, LIN. WILSON, iv. p. 42. pl. 30. fig. 4. [young male.] and ix. p. 126. Phil. Museum, No. 6579.)

SP. CHARACT. — Above greyish, inclined to rufous, and spotted with dusky; below, and rump, pale crimson, approaching to white on the vent; crown deep crimson; frontlet and chin black; wings and tail dusky; bill very sharply and slenderly pointed. — *Female* without red on the rump, the throat black; the breast generally whitish; belly with large dusky spots. — In the *young*, the space round the bill is cinereous, the lower parts pale rufous, and spotted, with two rufous bands upon the wing.

THIS elegant species, which only pays us occasional and transient winter visits, at distant intervals, is an inhabitant of the whole arctic circle to the confines of Siberia, and is found in Kamtschatka and Greenland, as well as the colder parts of Europe. Arriving in roving flocks from the northern wilds of Canada, they are seen, at times, in the western parts of the state of New York with the fall of the first deep snow, and occasionally proceed east-

ward to the very city of New York, where, in the depth of winter, and for several weeks, they have been seen gleaning their scanty food, of various kinds of seeds, in the gardens of the town and suburbs. Flocks are likewise sometimes seen in the vicinity of Philadelphia in severe winters, though at remote periods, as, according to Mr. Ord, they have not visited that part of Pennsylvania since the winter of 1813-14. They appear very unsuspicious while feeding in the gardens, or on the seeds of the alder-bush, one of their favorite repasts, and, thus engaged, allow a near approach while searching for their food in every posture, and sometimes head downwards. They are also fond of the seeds of the pine, the linden, and rape, and in the winter sometimes content themselves even with the buds of the alder. According to Mr. CEdman, about Michaelmas, they migrate from Sweden in flocks of more than 200 individuals, which are found all to be males. Wilson believed he heard this species utter a few interrupted notes, but nothing satisfactory is known of its vocal powers. Mr. Ord remarks that their call much resembles that of the Common Yellow-Bird, to which, indeed, they are allied. They are said to breed in the Highlands of Scotland, and to select the heath and furze for the situation of their nests; though they more commonly choose alder-bushes and the branches of the pine. The nest, almost like that of the Yellow-Bird, is composed of stalks of dried grass, intermixed with tufts of wool, and warmly lined with hair and feathers. The eggs, about 5, are of a bluish-white, varied with numerous reddish spots disposed at the larger end. A nest, on an alder stump, has been found in the South of England, according to Latham, on which the bird sat with so much tenacity as to suffer herself to be taken off by the hand, and when released would not forsake it.

A smaller variety of this bird sometimes is seen in whole companies. The usual length is about $5\frac{1}{4}$ inches. Upon the flanks and inferior coverts of the tail are some longitudinal blackish spots. Wings and tail black, the quills edged with greyish rufous; the former with two transverse bands. Bill yellow; black at the point. Feet brown. In the female only part of the crown is carmine.

Subgenus. — FRINGILLA.

Bill short and thick, somewhat narrower than the head, almost perfectly conic.

FERRUGINOUS FINCH.

(*Fringilla iliaca*, MERREM. LATH. *F. rufa*, WILSON, iii. p. 53. pl. 22. fig. 4. Phil. Museum, No. 6092.)

SP. CHARACT. — Varied with reddish-brown and grey; beneath white, largely spotted with bright bay and dusky; tail and coverts bright ferruginous.

THIS large and handsome Sparrow, after passing the summer and breeding-season in the northern regions of the continent around Hudson's Bay, and farther north and west perhaps to the shores of the Pacific, visits us in straggling parties or pairs from the middle of October to November. At this time it frequents low, sheltered thickets in moist and watery situations, where they usually descend to the ground, and, like the next species, are busily employed in scratching up the earth and rustling among the fallen leaves in quest of seeds, worms, and insects, but more particularly the last. They migrate in a desultory manner, and sometimes arrive as far south as Georgia, passing the winter in the Southern States, and retiring early in the spring to their favorite boreal retreats. They are silent, rather tame, and unsuspicious; when alarmed or separated, their call is simply *shep, shep*; yet, at times, in the spring, a little before their departure, they whisper forth a few low and sweet notes, indicative of the existence of vocal powers in the pairing season.

The Ferruginous Sparrow is about 6 inches long, and $9\frac{1}{4}$ in alar dimensions. Head and neck cinereous, the feathers margined with ferruginous. Wings and tail rust-color, inclined to reddish-brown; 1st and 2d rows of wing-coverts tipped with white. Legs and feet robust, brownish-white. Bill stout, dusky, the lower mandible yellowish. Irids hazel.



GROUND ROBIN, or TOWWEE FINCH.

(*Fringilla erythrophthalma*, LIN. *Emberiza erythrophthalma*, WILSON, ii. p. 35. pl. 10. fig. 5. Phil. Museum, No. 5970.)

SP. CHARACT.—Black; belly white; flanks and vent bay; tail rounded, 4 outer feathers partly white; a white spot on the wing below the coverts, and an interrupted white margin on the primaries; bill black.—*Female*, olive-brown where the male is

black, the head and throat inclining to chesnut; (as in the young male) 3 only of the lateral tail-feathers are marked with white.

— *Youngish male* with the outer primary partly edged with white, and with the narrow white spots on the 3 inner tertials partly obsolete, or tinged with brown.

THIS is a very common, humble, and unsuspicious bird, dwelling commonly in thick dark woods and their borders, flying low, and frequenting thickets near streams of water, where it spends much time in scratching up the withered leaves for worms and their larvæ, and is particularly fond of wire-worms (or *Iuli*), as well as various kinds of seeds and gravel. Its rustling scratch among the leafy carpet of the forest is, often, the only indication of its presence, excepting now and then a call upon its mate (*tōw-wee, tōw-wee, tōw-weet*,) with which it is almost constantly associated. While thus busily engaged in foraging for subsistence, it may be watched and approached without its showing any alarm; and taking a look often at the observer, without suspicion, it scratches up the leaves as before. This call of recognition is uttered in a low and somewhat sad tone, and if not soon answered, it becomes louder and interrogatory, *tow-wee towee?* and terminates often with *tōweet*. They are accused of sometimes visiting the pea-fields to feed, but occasion no sensible damage.

In the pairing season, and through the period of incubation, the male frequently mounts to the top of some bush amidst the thickets, where he usually passes the time, and from hence, in a clear and sonorous voice, chants forth his simple guttural and monotonous notes for an hour or so at a time, while his faithful mate is confined to her nest. This quaint and somewhat pensive song often sounds like, *t'sh'd wītée tē tē tē tē tē*, or *'bīd-wī teé, tr tr 'tr 'tr*, the latter part a sort of quaint and deliberate quivering trill; sometimes it sounds

like 'bid tsherr 'rh 'rh, rrh 'wt, then 't'wee twee t' tsher' r'r, also *et se ya, ya 'ya 'ya 'ya 'ya*, the latter notes, attempted to be expressed by whistled and contracted consonant syllables, are trilled with this sound.

The Ground Robin, sometimes also called *Tshe-wink* and *Pee-wink* from another of its notes, is a general inhabitant of Canada and the United States, even to the base of the Rocky Mountains, and the peninsula of Florida, in all of which regions, except the last, with Louisiana and the contiguous countries, they pass the summer and rear their young, migrating, however, from the Northern and Middle States in October, and returning again about the middle or close of April, according to the advancement of the season, at which time, also, the males usually precede the arrival of their mates. They pass the winter generally to the south of Pennsylvania, and are then very abundant in all the milder states of the Union.

They are said to show some address at times in concealing their nest, which is fixed on the ground, in a dry and elevated situation, and sunk beneath the surface among the fallen leaves, sometimes under the shelter of a small bush, thicket, or briar. According to the convenience of the site, it is formed of different materials, sometimes, according to Wilson, being made of leaves, strips of grapevine bark, lined with fine stalks of dry grass, and occasionally in part hidden with hay or herbage. Most of the nests in this vicinity are made in solitary dry pine woods, without any other protection than some small bush, or accidental fallen leaves; and the external materials, rather substantial, are usually slightly agglutinated strips of red-cedar bark, or withered grass with a neat lining of the same and fallen pine leaves; the lining sometimes made wholly of the latter. The nest is also at times ele-

vated from the ground by a layer of coarse leaf-stalks, such as those of the hickory. The eggs are 4 or 5, white with a tinge of flesh-color, thickly spotted with reddish-brown of two shades, rather more numerous towards the larger end. The first brood are raised early in June, and a second is often observed in the month of July; but in this part of New England they seldom raise more than one. The pair show great solicitude for the safety of their young, fluttering in the path, and pretending lameness, with loud chirping when their nest is too closely examined.

The Towwee Finch is about 8 inches in length; and 11 in alar dimensions. Vent pale bay; a few spots at times on the sides of the bay of the breast. The wing in the adult and perfect male has the 1st primary wholly black. The next 3 with an interrupted white edging, about $\frac{1}{2}$ an inch in extent, running down across the wing; the white spot below, and just over the bastard wing, stretches over the lower part of the 6 primaries after the 1st; there are then 3 linear, irregular, white blotches on the outer webs of the 3 tertials next to the body; in the younger males, even of the 2d season, these last spots resemble a mere rufous-white edging, and the upper straggling wing-spot extends now over the edges of the 5 primaries after the first. The 1st primary is short, and the 3d, 4th, and 5th are nearly of equal length, and longest, with the 6th but little shorter. The tail is long (about $3\frac{1}{2}$ inches), and the 3 first feathers on either side are regularly graduated. The legs and feet are pale flesh-color, and remarkably stout, with the claws very long. — NOTE. This, and some other Mexican species, bearing a sort of family resemblance, have been thrown into a genus apart by Vieillot, under the name of *PIPILO*; but we have not been fortunate enough to discover in this bird any thing more than habit, to distinguish it from other species of true *Fringilla*.

Subgenus. — COCCOTHTRAUSTES.

In these birds the BILL is very stout, and at base as wide as the forehead; it is likewise slightly curved at the point, and more or less turgid at the sides.



CARDINAL GROSBEAK, OR RED-BIRD.

(*Fringilla cardinalis*, BONAP. *Loxia cardinalis*, L. WILSON, ii. p. 38.
pl. 11. fig. 1. [male.] and fig. 2. [female.] Phil. Museum,
No. 5668.)

SP. CHARACT. — Crested, scarlet, beneath brighter ; capistrum and throat black ; bill coral red. — *Female* and *young*, drab ; beneath reddish drab ; tip of the crest, wings, and tail, red ; capistrum and chin cinereous.

THIS splendid and not uncommon songster chiefly occupies the warmer and more temperate parts of the United States from New York to Florida, and a few stragglers even proceed as far to the north as Salem in Massachusetts. They also inhabit the Mexican provinces,* and are met with south as far as Carthage ; adventurously crossing the intervening ocean, they are likewise numerous in the little temperate Bermuda islands, but do not apparently exist in any of the West Indies. As might be supposed, from the range already stated, the Red Bird is not uncommon throughout Louisiana, Missouri, and Arkansas Territory. Most of those which pass the summer in the cooler and Middle States retire to the South at the commencement of winter ; though a few linger in the sheltered swamps of Pennsylvania and near the shores of the Delaware almost through the winter. They also, at this season, probably assemble towards the sea-coast from the west, in most of the Southern States, where roving and skulking timid families are now seen flitting silently through thickets and swampy woods alone, eager to glean a scanty subsistence, and defend themselves from prowling enemies. At all times, however, they appear to have a predilection for watery groves, and shaded running streams, abounding with evergreens and fragrant magnolias, in which they are so frequent as to be almost concomitant with the scene. But though they usually live only in families or pairs, and at all times disperse into these selective groups, yet in severe weather, at sunset, in South Carolina, I observed a flock passing to a roost in a neighbouring swamp and bushy

* In the month of March Mr. Bullock saw them round Vera Cruz.

lagoon, which continued, in lengthened file, to fly over my head at a considerable height for more than 20 minutes together. The beautiful procession, illumined by the last rays of the setting sun, was incomparably splendid as the shifting shadowy light at quick intervals flashed upon their brilliant livery. They had been observed to pass in this manner to their roost for a considerable time, and, at day-break, they were seen again to proceed and disperse for subsistence. How long this timid and gregarious habit continues, I cannot pretend to say; but by the first week in February, the song of the Red Bird was almost daily heard. As the season advances, roving pairs, living, as it were, only with and for each other, flit from place to place; and following also their favorite insect or vegetable fare, many proceed back to the same cool region in which they were bred, and from which they were reluctantly driven; while others, impelled by interest, caprice, and adventure, seek to establish new families in the most remote limits of their migration. Some of these more restless wanderers occasionally, though rarely, favor this part of New England with a visit. After listening with so much delight to the lively fife of the splendid Cardinal, as I travelled alone through the deep and wild solitudes which prevail over the Southern States, and bid, as I thought, perhaps an eternal adieu to the sweet voice of my charming companions, what was my surprise and pleasure, on the 7th of May, to hear, for the first time in this State, and in the Botanic Garden, above an hour together, the lively and loud song of this exquisite vocalist, whose voice rose above every rival of the feathered race, and rung almost in echoes through the blooming grove in which he had chosen his retreat. In the Southern States, where they every where breed, they become familiarly attached

to gardens, which, as well as corn-fields, afford them a ready means of subsistence ; they are also fond of the seeds of most of the orchard fruits, and are said occasionally to prey upon bees.

The lay of the Cardinal is a loud, mellow, and pleasingly varied whistle, delivered with ease and energy for a considerable time together. To give it full effect, he chooses the summit of some lofty branch, and elevating his melodious voice in powerful as well as soothing and touching tones, he listens, delighted, as it were, with the powers of his own music, at intervals answered and encouraged by the tender responses of his faithful mate. It is thus the gilded hours of his existence pass away in primeval delight, until care and necessity break in upon his contemplative reveries, and urge him again to pursue the sober walks of active life.

The song of the Red Bird, like that of so many others, though possessed of great originality, often consists in part, of favorite borrowed and slightly altered phrases. It would be a difficult and fruitless task to enumerate all the native notes delivered by this interesting songster ; a few may be perhaps excused by those who wish, in their rural walks, to be made, in any way, acquainted with the language of the feathered vocalists that surround them. All the tones of the Cardinal are whistled much in the manner of the human voice. Late in February, while travelling in Alabama, I heard one crying *woolit, wolit wolit wolit*, then in a quicker tone *butsh bütsh bütsh bütsh*, and *'tshooway tshooway tshooway*. At another time the song was *'wit a 'wit, 'tēú* ; then *tshevi tsheve 'tēú, 'whoit 'whoit 'whoit 'tēú* (the *'whoit* an exact human whistle, and the *tēú* tenderly emphatic.) Another bird called, *téo téo téo, tshooé, tshooe tshooe tshooe*, then *teo teo teo teo* alone, or *'wóit 'wóit 'wóit 'wóit*, with the last word delivered slower,

and in a sinking, delicately plaintive tone. These phrases were also answered in sympathy by the female, at a little distance up the meandering brook where they were engaged in collecting their food. In Florida, about the 12th of March, I heard a very fine Red Bird singing *'whittoo wittoo widdoo 'widdoo*. He began low, almost in a whisper, but very clearly articulated, and gradually raised his voice to loudness, in the manner of the Nightingale. He now changed the strain into *'victu, wilt wilt wilt wilt*; then *'victu, tshooé 'tshöoe tshöoe tshöoe*, afterwards *tú tú 'victu*, and *victu tu tu*, then varying *'tshöoe*, &c. in a lower key. On approaching this bird, to see and hear him more distinctly, he exhibited his anger, by scolding in a hoarse tone almost like that of a squirrel, and from the season, and absence of response in the female, I imagine he already had a nest in the neighbouring thicket. The bird which frequented the Botanic Garden for several days, in the morning sang fearlessly and loudly, but at other times the pair hid themselves amongst the thickest bushes, or descended to the ground to feed among the grass and collect insects and worms; now and then, however, in an under-tone, as if afraid of attracting notice, he whispered to his mate, *teú teú téú, woit 'woit 'woit*, elevating his tone of recognition a little at the close of the call, and going over other of the usual phrases in the same whispering and slenderly rising voice. About the 4th of July, the same pair, apparently, paid us a parting visit, and the male sung with great energy, *'tv' tv', 'wétö 'wétö 'wetö 'wetö wait*, then *waitüp waitüp waitüp waitüp, tshow tshow tshöw tshöw tshow*. On whistling any of these notes within hearing of the Cardinal, a response is almost certain, as this affectionate recognition is frequently answered by the female. His phrase may also be altered at will, by whistling some other than that

which he repeats, as he often immediately answers in the call he hears, supposing it to be that of his approaching mate.

On their arrival in the Middle States, in spring, violent contests sometimes ensue between the unmated and jealous males. When the dispute is for the present closed, the pair, probably for greater security, and dreading a recurring quarrel of doubtful issue, wander off to a remote distance from their usual abode, and in this way, no doubt, occasionally visit countries but little frequented by the rest of their species. Early in May, it seems, in Pennsylvania, according to Wilson, they begin to prepare their nests, which are often placed in an evergreen bush, cedar, laurel, or holly. The external materials are small twigs, dry weeds, and slips of vine-bark, the lining being formed of fine stalks of dry grass. The eggs, 4 or 5, are of a dull white, thickly spotted all over with brownish olive. They usually raise two broods in the season. As they are so easily domesticated immediately after being caught in trap cages, it is unnecessary to raise them from the nest. By this kind of unnatural confinement, the brilliant color of the male is found sometimes to fade until it becomes of a pale whitish red. They live, however, long in confinement, and an instance is known of one which had survived for 21 years. In the cage, they have not that variety of song which they exhibit in their native wilds; and this, judging from the frequent repetition of the same phrase, would appear to be a monotonous performance, if the variety of expression, tone, and key did not perpetually relieve and enhance the character of the lay. His song also continues for 6 or 8 months in the year, and is even, as among the Thrushes, more lively in wet weather; the sadness of nature, softening and soothing the tender vo-

calist into a lively, pathetic, and harmonious reverie. So highly were these birds esteemed for their melody, that according to Gemelli Careri, the Spaniards of Havana, in a time of public distress and scarcity, bought so many of these birds, with which a vessel was partly freighted, from Florida, that the sum expended, at 10 dollars apiece, amounted to no less than 18,000 dollars ! Indeed Latham admits that the notes of our Cardinal "are almost equal to those of the Nightingale," the sweetest feathered minstrel of Europe. The style of their performance is, however, wholly different. The bold martial strains of the Red Bird, though relieved by tender and exquisite touches, possess not the enchanting pathos, the elevated and varied expression of the far-famed Philomel, nor yet those contrasted tones, which, in the solemn stilness of the growing night, fall at times into a soothing whisper, or slowly rise and quicken into a loud and cheering warble. A strain of almost sentimental tenderness and sadness pervades by turns the song of the Nightingale ; it flows like a torrent, or dies away like an echo ; his varied ecstasies seem poured to the pale moon-beams, and like the desponding lover, seeking to hide his grief in solitude, his sapphic lays, wasted, as it were, in the desert air, now meet with no response but the sighing zephyr or the ever-murmuring brook. The notes of our Cardinal are as full of hilarity as of tender expression ; his whistling call is uttered in the broad glare of day, and is heard predominant over most of the feathered choir by which he is surrounded. His responding mate is the perpetual companion of all his joys and cares ; simple and content in his attachment, he is a stranger to capricious romance of feeling ; and the shades of melancholy, however feeble and transient, find no harbour in his preoccupied affections.

The length of the Cardinal Bird is about 8 inches, and 11 in alar dimensions. The whole upper parts are of a dull dusky-red, except the sides of the neck, head, and whole lower parts, which are of a clear vermilion. The chin, front, and lores black; the head ornamented with a high-pointed crest. Tail nearly even and long. Bill almost coral red. The legs and feet pale flesh-color, inclining to brownish. Irids dark hazel.

EVENING GROSBEAK.

(*Fringilla vespertina*, COOPER. BONAP. Am. Orn. ii. p. 75. pl. 15. fig. 1.)

SP. CHARACT. — Front and line over the eye yellow; crown, wings, and tail black; secondaries and inner great wing-coverts white; bill pale yellow.

THIS recently discovered and beautiful species, like the following, appears to inhabit the solitudes of the Northwestern interior, being met with from the extremity of the Michigan Territory to the Rocky Mountains. It is not uncommon towards the upper extremity of Lake Superior and the borders of Athabasca Lake; to the east of these limits they only appear to be transient visitors in spring and fall. Their habits at the breeding-season are unknown; but during the stay they make in the spring, in their migrating route, they appear to pass most of the day in the deep and lonely swamps, thickly overgrown with a gloomy and almost impervious forest of resinous evergreens. From these they sally forth in small families to feed towards the approach of night; and at this season, in the dusk of twilight, their strange and mournful notes are heard from the forest, while the sad and serenading minstrel himself remains concealed; though at other times they are so fearless or incautious as to suffer themselves to be seized almost by the hand.

The Evening Grosbeak is $8\frac{1}{2}$ inches long. The sides of the head, neck, both above and beneath, with the interscapulars and breast,

are of a dark olive-brown, blending and becoming paler as they approach the other tints. The back, rump, sides, and below, with the under wing and tail-coverts yellow. Legs and feet flesh-color. — The sexes nearly alike.

ROSE-BREASTED GROSBEEK.

(*Fringilla ludoviciana*, BONAP. *Loxia rosea* (ludoviciana), WILSON, ii. p. 135. pl. 17. fig. 2. [male.] and BONAP. Am. Orn. ii. p. 14. fig. 2. [female.] Phil. Museum, No. 5806, 5807.)

SP. CHARACT. — Black; breast and inferior wing-coverts rosaceous; belly, band on the wing, base of the primaries, and 3 outer tail-feathers partly white; bill whitish. — *Female* and *young*, varied with pale flaxen, dark-olive, and whitish; no rose-color, and less white on the wings.

THE history of this splendid songster is very obscure, the species being rare and accidental in the Atlantic States. The remote Northwestern Territories of the Union, Canada, and the cool regions towards the Rocky Mountains, appear to be the general residence of the Rose-breasted Grosbeak. Mr. Say met with it in the spring, on the banks of the lower part of the Missouri, and at Pembino on the 5th of August in the 49th degree of latitude. The enterprising Dr. Richardson, who accompanied Captain Franklin into the dreary northern regions of Canada, also observed it in the latitude of 53°. It has likewise been seen in Mexico. These are, no doubt, its proper natal regions, and the course of its migrations, from which it only ventures accidentally in severe winters, and is then transiently seen in pairs east of the Atlantic mountains, which constitute the general boundary of its range. They are thus seen occasionally in the vicinity of Philadelphia, in the state of New York, particularly along the borders of Lake Ontario, and in Connecticut, but rarely if ever in this part of New England. Pennant speaks of its arrival in the state of New York in

May, where it has a nest of 5 eggs, and then retires in August. It is also unknown in the Southern States. According to Bonaparte, its nest is concealed amidst the thick foliage of the shady forests, where it delights to dwell in solitude. Externally it is composed of twigs, and lined with slender grass; and the eggs are 4 or 5, white, spotted with brown. My friend, Mr. Cooper, remarks, that though this species is rare in the vicinity of New York, a few probably breed in the woods of the Hudson, as at Tappan, 30 miles up that river, they are frequently seen in the cherry trees in the month of June; and they are said to be numerous in the forests along the south shore of Lake Erie, and usually breed there. It thrives very well in a cage, is a most melodious and indefatigable warbler, frequently, in fine weather, as in its state of freedom, passing a great part of the night in singing, with all the varied and touching tones of the Nightingale; while thus earnestly engaged, it seems to mount on tiptoe in an ecstasy of enthusiasm and delight, at the unrivalled harmony of its own voice. The notes are wholly warbled, now loud, clear, and vaulting, with a querulous air, then perhaps sprightly, and finally lower, tender, and pathetic. In short, I am not acquainted with any of our birds superior in song, to the present, with the solitary exception of our Orphean Mocking-Bird.

The Louisiana Grosbeak is fed upon the usual kinds of bird-seed, and in their wild state seem to be peculiarly fond of the kernels of the sour-gum berries; they probably also feed upon the berries of the juniper, which abound in the regions they usually inhabit.

This species is $8\frac{1}{2}$ inches long, and 13 in extent. Above black, except the 2d row of wing-coverts, which are broadly tipped with white; a spot of the same exists on the primaries. The chin, neck, and upper parts of the breast are also black. Lower part of the

breast, middle of the belly and lining of the wings, a light carmine tint. The tail forked, black, the 3 exterior feathers on each side, white on their inner vanes for an inch or more from the tips. Bill white, (in the female rather dusky). Legs and feet greyish-blue. Irides hazel.

BLUE GROSBEAK.

(*Fringilla cœrulea*, BONAP. *Loxia cœrulea*, WILSON, iii. p. 78. pl. 24. fig. 6. [male.] Phil. Museum, No. 5826.)

SP. CHARACT. — Deep blue ; lores and frontlet black, tail and wings dusky, the latter skirted with pale bay ; bill dusky-blue. — *Female* and *young* dark drab, tinged with blue. — The males probably undergo a double moult ?

THIS shy, and almost solitary species, chiefly inhabits the warmer parts of America from Brazil to Virginia ; stragglers occasionally also visit the lower parts of Pennsylvania and New Jersey, and Bullock observed them on the table land of Mexico. According to Wilson, it is nearly a silent bird, seldom singing in the cage, its usual note of alarm being merely a loud *chuck* ; though, at times, their musical capacity, under more favorable circumstances, would appear, by their uttering a few low and sweet toned notes. They may be fed on Indian corn, hemp seed, millet, and the kernels of several kinds of berries.

This little known species is 6 inches long, and 10 in extent ; of a rich purplish-blue, more dull and spotted with dusky on the back ; coverts of the wings edged with bay ; quills skirted with blue. Tail forked, edged with bluish, and sometimes slightly tipped with white. Legs and feet lead-color. Bill dusky-blue, inclining to horn-color. Eyes large, full, and black.

PURPLE FINCH, OR AMERICAN LINNET.

(*Fringilla purpurea*, GMEL. WILSON, i. p. 119. pl. 7. fig. 4. [male.] and v. p. 87. pl. 42. fig. 3 [male in winter plumage.] AUD. pl. 4. Orn. i. p. 24. *Loxia rosea*, VIEILL. Phil. Museum, No. 6504.)

SP. CHARACT. — Crimson, deepest on the head and throat; wings and emarginate tail, dusky, the back spotted with the same; belly partly white. — *Female* and *young* varied with pale brown and dusky, without crimson; beneath yellowish-white, spotted with dusky brown.

THIS brilliant and cheerful songster inhabits the Northern and Western States during the summer, where it pairs and rears its young. They have been observed also in Missouri territory by Mr. Say, and probably extend their residence far to the North. They appear to have a great predilection for resinous evergreens, pine and spruce, and feed upon the berries of the juniper and red cedar,* as well as the seeds of the tulip-tree,† and others; they likewise frequent gardens for the same purpose, and are particularly pleased with sun-flower seeds and other oily kinds. When reduced to necessity, they are observed to eat the buds of the beech, and those of the fruit trees, probably for the sake of the stamens contained in them, of which they are greedy when displayed in the opening blossoms. The stipules of the expanding buds of the elm, which are sweet and mucilaginous, in the spring, also make a common part of their fare. Their food, in summer, however, consists principally of insects, and juicy berries, as those of the honeysuckle and others.

Although the Purple Finch breeds and passes the season in this vicinity, yet as early as the close of September they leave us for the South; about which time, and nearly to the close of October, small, hungry, roving flocks arrive from the more Northern States, and Canada, or Newfoundland. At the same time likewise great numbers visit Pennsylvania, the maritime parts of New York and New Jersey, and many pass the winter in the Middle States; while others proceed as far south as the states of Louisiana and Florida, returning north in the

* *Juniperus virginiana*.

† *Lyriodendron tulipifera*.

latter end of March, or early in April, and arriving with us in the month of May, to pass the most important period of their existence. Roving flocks are also seen here as early as the 24th of March, singing while they stay, with great energy and cheerfulness; these, in all probability, proceed to Labrador or Newfoundland to breed. The males now have many bitter contests for the choice of their mates, and are very bold and pugnacious in confinement, attempting to destroy every other bird introduced into the same cage. They also bite severely when taken up wounded, but are directly reconciled to the cage, finding their most important wants so amply supplied; yet, in this state, they often refuse to sing, and after moulting into the humble plumage of the female, frequently remain so, without ever renewing their crimson dress. They are here exposed in cages for sale at high prices (by the name of Linnets), and sing pretty commonly in confinement. Their notes are very similar to those of the Warbling Vireo, but louder, and more agreeably diversified. From the tops of our lofty and spreading elms, or shadowy spruce-trees, where they delight to pass the time, their varied and very cheerful melody is often continued almost without interval, and poured forth like a torrent. After a combat with a rival, his towering notes of victory burst out into rapture, and he now seems to triumph with loud and petulant hilarity. The song of this beautiful Finch is, indeed, much finer than that of the Canary; the notes are remarkably clear and mellow, and the trilling, sweet, and various, particularly on their first arrival. At times the warble is scarcely audible, and appears at a distance; it then, by a fine crescendo, bursts into loudness, and falls into an ecstasy of ardent and overpowering expression; at such times the usual pauses of the song are forgotten, and, like the

varied lay of the Nightingale, the ravishing performer, as if in serious emulation, seems to study every art to produce the effect of brilliant and well contrasted harmony. As he sits on the topmost bough of some tall sapling or more lofty tree, surveying the wide landscape, his proud voice and elevated action seem to bid defiance to competition, and while thus earnestly engaged, he seems to fear no spectator, however near may be his approaches. The rapidity of his performance, and the pre-eminent execution with which it is delivered, seem almost like the effort of a musical box, or fine-toned, quickly moving, delicate strain on the organ. While feeding, in the month of March, they also utter a querulous *tshippee tshee*, in nearly the same sad and liquid tone as that uttered by the Yellow-birds while thus engaged. The dull colored birds, in the attire of the female, do not sing either so well, or in the same manner as the crimson-colored individuals, though, as in the Pine Grosbeak, it is probable, that the brilliant color is merely confined to youngish birds; and hence those in cages, which lose that fine tint, are only the more adult individuals, in which this deterioration of color is natural.

Although several pair of these birds usually pass the summer in this vicinity, in spite of the utmost diligence continued for three years, I have never yet been able to discover their nests, although I have seen the female collecting wool from a fence for the purpose, so that I imagine it will be found to be very like that of the Yellow-bird, matted and lined with soft substances. General Dearborn, however, informed me, that he had seen the nest of this species (in July, 1830) containing young, fixed on the low, horizontal branch of a balsam-fir, contiguous to a house, and even near a path. The outside appeared to be lined with lichens, and the whole

was neatly and compactly formed. They seem indeed much attached to evergreens, frequenting their shade, during the heat of the day. They sing at various times, but most vigorously in the morning and evening. From another person who has also seen the nest of this species, I learn, that it is commonly in an evergreen, contains very few eggs or young, and that they raise but a single brood in the season, which are not hatched before mid-summer.

The Crimson Finch is from 6 to 6½ inches in length, and 9 or more in alar extent. Crimson, much deeper on the head and chin; the breast and rump paler, inclining to rosaceous. The back appears much spotted with dusky. The wings and tail are also dusky, edged with reddish; vent and centre of the belly white; the sides under the wings clouded with dull brownish. Legs brownish flesh-color. Bill dull, dark horn-color. Irides hazel. In young males, the crimson feathers of the head and neck, are sometimes edged with rose-color, so that the brilliant tint is only seen by reflected light; as the margins, however, wear off, the vesture, in early spring, attains its proper color. Audubon observes, that among the flocks which winter in the South, there are as many red individuals as in summer; here they are less common at that season; it is therefore not improbable that the young males proceed farther south, generally, than either the females or younger birds. Mr. Cooper remarks, that in the vicinity of New York the purple are as common as the brown birds.

BULLFINCHES. (PYRRHULA. *Briss.*)

In these birds the BILL is short, robust, thick, convex-conic, turgid at the sides, compressed at the point, the upper mandible acute, and obviously curved, as well as the inferior more or less; palate smooth and scooped. NOSTRILS basal, lateral, rounded, and most commonly concealed by the feathers of the frontlet. TONGUE thick, and somewhat fleshy. TARSUS shorter than the middle toe, which is united at base to the outer. — *Wings* rather short; the 3 first primaries graduated, the 4th longest. Tail slightly rounded or square. — The *female* differs considerably from the male. They moult generally twice in the year.

The Bullfinches possess many of the habits of the Crossbills, to which they are nearly allied; they subsist on the hardest seeds, from which they separate the husk. Some of the foreign species have exceedingly thick and strong bills, capable of cleaving the most compact and woody shells of seeds. Most of the species inhabit cold and temperate climates, being spread through Europe, America, and Northern Asia; there are a smaller number in Africa, and none in Australia; some exist also in tropical America. They live in forests, building in trees and bushes, and lay 4 or 5 eggs.

CRIMSON-FRONTED BULLFINCH.

(*Pyrrhula frontalis*, BONAP. Am. Orn. i. p. 49. pl. 6. fig. 1. [male] fig. 2. [female]. *Fringilla frontalis*, SAY, nec. LATH. Phil. Museum, No. 6276-7.)

SP. CHARACT. — Dusky-brownish; fore part of the head, throat, breast, and rump crimson; belly whitish, spotted with dusky; tail nearly even. — *Female* dusky-brown, the feathers edged with whitish; no crimson; beneath whitish, streaked with dusky.

For this new species we are again indebted to the industry of Mr. Say, who described it in Long's Expedition. It was met with near to the base of the Rocky Mountains, in the month of July, on the plains of the Arkansa, and consequently passes the breeding season in that country, having thus probably a very limited northern range. To the South, however, they have since been observed by Mr. Bullock on the table land of Mexico. They live, like the Purple Finch, in small scattered flocks, and were observed to frequent the tops of the cottonwood poplars (*Populus angulata?*), feeding partially on their buds. Their voice is said to resemble that of the preceding bird, but we are not informed of their possessing any musical powers.

This species is about $5\frac{1}{2}$ inches long. The head near the front, neck beneath, and upper portion of the breast crimson, deeper near the bill and over the eye; cheeks, and space from bill to eyes greyish. The occiput, the neck above, and on the sides, brown, with a

reddish cast. The back dusky-brownish; rump crimson, less vivid than the head. Inferior portion of the breast, belly, and vent whitish, each feather having a broad, fuscous line. Wings blackish-brown.

PINE GROSBEAK OR BULLFINCH.

(*Pyrrhula enucleator*, TEMM. *Loxia enucleator*, WILSON, i. p. 80. pl.

5. fig. 2. [young male of the first year.] Phil. Museum, No. 664.)

SP. CHARACT.—The wings with 2 white bands, and the tail black; secondaries edged with white; length about 9 inches.—*Adult male* tinged with reddish-orange, beneath inclined more to yellow, above varied with blackish-brown.—In the *young male* the same parts and the rump are carmine of different shades, except the flanks, abdomen, and vent, which are cinereous.—*Female*, with the top of the head and rump brownish-orange; below cinereous, with a faint tinge of orange.

THIS splendid and very hardy bird appears to dwell almost wholly within the cold and arctic regions of both continents, from whence only, in severe winters, a few migrate into Canada and the United States, where they are consequently of rare and uncertain occurrence. They are common in the pine forests of Siberia, Lapland, and the northern parts of Russia; and are also observed in the Scottish Highlands, and on the Northwest coast of America. They have been seen in winter in the lower part of Missouri, and at the same season, occasionally, in the maritime parts of Massachusetts and Pennsylvania. The American birds of this species are observed to return to Hudson's Bay as early as April. According to Mr. Pennant, they frequent the woods of pine and juniper, and are now possessed of musical talents; but as the period of incubation approaches, they grow silent. Their nests are made in trees (probably their favorite evergreens), at a small height from the ground, with twigs externally, and lined with feathers. The eggs, 4 or 5,

are white?, and the young are hatched in June. Suited to the sterile climates they inhabit, their fare, besides the seeds of the pine, alpine plants, and berries, often consists of the buds of the poplar, willow, and other northern trees and shrubs; so that they are generally secure of the means of subsistence, as long as the snows are not too overwhelming. The individuals, as yet seen in the United States, are wholly young birds, which, it seems, naturally seek out warmer climates than the adult and more hardy individuals.

The length of the Pine Bullfinch is about 9 inches or under. Tail considerably forked. Legs black. Bill brownish horn-color.

CROSSBILLS. (*LOXIA. Briss.*)

In these birds the BILL is robust and convex, with the mandibles crossing each other and compressed towards the points, which are extended in the form of crescents. NOSTRILS basal, lateral, rounded, hidden by the advancing hairs of the front. TONGUE cartilaginous, short, entire, and pointed. The TARSUS nearly equal with the middle toe; toes divided to the base; hind nail largest, much curved.—*Wings* moderate, 1st and 2d primaries longest. *Tail* notched.

The *female* and *young* differ considerably from the adult male, and from each other; there is likewise a difference of plumage according to age and season; although they are believed to moult but once a year. They inhabit the boreal and arctic regions, and possess most of the manners of the Grosbeaks and Bullfinches. They live principally in the forests of pine and fir; feeding usually on the seeds or nuts of that family of trees, their bills being singularly well adapted for the opening of the pine cones; they feed also on other kinds of hard seeds of the trees and shrubs of cold and alpine regions. In Europe they are observed to nest often in the depth of winter, and still later in the cold and arctic regions whither they retire at the approach of summer. Their migrations are irregular, and influenced much by accidental circumstances; sometimes they appear in great numbers, as if driven forth by the approach of famine. They are active and not timorous; and easily tamed. By the genus *Psittirostra*, or Parrot-billed Grosbeak of New Holland, the Crossbills evidently approach the Parrots of the next order ZYGODACTYLI.

PAROQUET CROSSBILL.

(*Loxia pytiopsittacus*, BECHST. TEMMINCK, i. p. 325. (ed. alt.)

SP. CHARACT. — Wings without bands ; bill shorter than the middle toe, very stout, and greatly incurved, the point of the lower mandible not crossing the upper edge of the bill.

THIS species, hitherto unseen in the limits of the United States, inhabits, according to Temminck, the high northern regions of America as well as Europe, where they principally dwell and breed. They are sometimes, however, seen in summer in Poland, Prussia, and Germany ; and disperse themselves in winter through the pine forests for subsistence, returning again to the north at the approach of summer. They live on the seeds of the pine and alder, which they dexterously extract from their cones and catkins. They nest in winter in Europe, upon the branches of the same evergreens which afford them their principal sustenance. In Livonia, they lay in the month of May ; the nest is neatly and artfully constructed. The eggs, 4 or 5, are cinereous, marked at the larger end with some large, irregular spots of blood-red, and with lesser scattered spots of the same.

Length about $7\frac{1}{2}$ inches. In the old male the general color is olive-grey ; cheeks, throat, and sides of the neck cinereous ; upon the head brown spots edged with greenish-grey ; rump greenish-yellow ; breast and belly of the same color, but shaded with greyish ; some longitudinal spots of dark cinereous upon the flanks. Wings and tail blackish-brown, edged with olive-grey ; rump brown, with a wide and pale border. Iris dark brown. Bill blackish horn-color. Feet brown. — *Male, up to the age of a year.* Above and below of a scarlet red, more or less pure according to the time elapsed from the commencement of their second moult, which takes place in April or May. Tail and wings blackish, the feathers edged with reddish. A little time after the completion of the first moult, the red of the plumage becomes shaded with greyish ; also some grey spots upon the throat and cheeks ; the abdomen and rump rosaceous-white, upon the

latter a large brown spot occupying its centre. — *The young of the year* are of a greyish-brown above, with darker spots upon the head and back. Below whitish-grey with longitudinal brown spots; rump of a yellowish grey. — *The female* differs little from the young last mentioned; the upper parts are greenish grey, with large spots of cinereous-brown; the throat and neck greyish, shaded with brown; the rest of the lower parts cinereous, slightly shaded with greenish-yellow; rump yellowish; belly and rump whitish, upon the latter a large brown spot.

COMMON CROSSBILL.

(*Loxia curvirostra*, LIN. *Curvirostra americana*, WILSON, iv. p. 44. pl. 31. fig. 1. [young male !] fig. 2. [adult male ?] Phil. Museum, No. 5640.)

SP. CHARACT. — Wings without bands; the bill as long as the middle toe; the point of the lower mandible crossing the top of the bill. — *Adult male*, greenish-yellow inclining strongly to cinereous. — *Female* and *young before the first moult*, shaded with greenish and yellowish tints; rump yellowish; beneath whitish, streaked with dusky. — *Young male, after the first moult*, brick-red.

THIS more common species, like the preceding, inhabits the high northern and arctic regions of both continents, where it breeds, and is met with from Greenland to Pennsylvania, or farther south, according to the season, and their success in obtaining food, when driven to make their southern descent or migration. From September to April, they are found inhabiting the extensive pine forests in the mountainous and interior districts of Pennsylvania and other states to the North; they also extend their winter migrations into the lower parts of the state of Missouri. They have occasionally been seen in the maritime parts of Massachusetts, but are less common here than the following species, generally taking, in their irregular incursions, a more interior and mountainous route. In the eastern chain of the Alleghanies, in Pennsylvania, according to Wilson, they appear to be

at times very abundant visitors, feeding so steadily on the seeds of the white pine and hemlock spruce, as to be approached without taking alarm. They have also a loud, sharp, and not unmusical note, chattering as they fly; and, during the prevalence of deep snows, become so tamed by hunger as to alight round the mountain cabins, even settling on the roofs when disturbed, and, like pigeons, descending in the next moment to feed as if they had never been molested. They are then easily trapped, and so eager and unsuspicious, as to allow an approach so near that they may be knocked down with sticks. In these very familiar visits they are observed even to pick off the clay from the logs of the house, and to swallow the mere earth to allay the cravings of hunger. In cages they show many of the habits of the Parrot, climbing up the sides and holding the pine cones given them in one claw while they extract the seeds. Like the same bird, in Louisiana, they also do considerable damage at times in the orchard, by tearing apples to pieces for the sake of getting at the seeds only. They feed likewise on the seeds of the alder, as well as the kernels of other fruits, and the buds of trees. None of these birds have yet been observed to breed within the United States, as they retire for this purpose to their favorite pine forests in high and more cool latitudes, where in security and solitude they pursue the duties of procreation. Like the preceding, they often breed in winter in more temperate countries, as in January and February, and the young fly in March. The nest is said to be fixed in the forks of fir-trees; and the eggs, 4 or 5, are of a greenish-grey, with a circle of reddish-brown spots, points, and lines, disposed chiefly at the larger end; the lines also often extend over the whole surface of the egg.

The length of this species is about $6\frac{1}{2}$ inches. The bill brown horn-color. Legs and feet light brown; claws large, much curved and very sharp for the purpose of clinging to the cones and fruits on which they feed. Irides brown.

WHITE-WINGED CROSSBILL.

(*Loxia leucoptera*, GMEL. *Curvirostra leucoptera*, WILSON, iv. p. 48. pl. 31. fig. 3. [young male]. BONAP. Am. Orn. ii. pl. 14. fig. 3. [female].

SP. CHARACT. — Wings with 2 white bands. — The different states of plumage very similar to the preceding. — *Young male* more inclined to crimson, and without any yellow.

THIS beautiful and well distinguished species inhabits the northern regions of the American continent only, from whence, at irregular intervals, on the approach of winter, they arrive in the Northern and Middle States; and, as usual, with the rest of this curious family, seek out the pine and hemlock-spruce forests. Their visits to this state are very irregular. About two years since they were seen in large, gregarious, famished flocks, near Newburyport, and other neighbouring towns in the vicinity of the sea-coast, at which time many were caught, killed, and caged. Their whole habits are almost entirely similar to those of the preceding species.

According to Mr. Hutchins in Latham,* this species, as is supposed, arrives around Hudson's Bay in March, and in May builds a nest of grass, mud, and feathers, fixed generally about half way up a pine tree, and lays 5 white eggs, marked with yellowish spots. The young fly about the end of June. It remains in this country till the close of November, after which it retires, probably to the South; and Wilson's bird was obtained in the

* Latham's General Synopsis, Supplement, i. p. 148. [4to.]

Great Pine Swamp or forest of the Pokono (Pennsylvania), in the month of September, so that it may be possible that some few pairs breed in this situation.

This species is about $5\frac{1}{2}$ inches long. (In the young male) the wings and tail are of a deep black; and the general color of the plumage is dark crimson, partially spotted with dusky; tertials tipped with white; vent white, spotted with dusky. Bill brown horn-color. Feet and legs brown, and stout as in the preceding species.

ORDER FIFTH.

ZYGODACTYLI. (*Birds with the toes disposed in opposite pairs.*)

THE bill of various forms, but more or less arched and much hooked, — often also straight and angular (in the *second* family or sub-order.) The toes are always directed two backward and two forward, the hind exterior toe, however, often reversible.

This order contains birds which have the power of directing at will the outer toe backward or forward; it also contains a considerable number (or subordinate family) which retain habitually the digits in pairs. This conformation, affording a more solid manner of attachment, furnishes the means for clinging to and scaling the trunks and branches of trees; others also make use of this support advantageously for the purpose of prehension (as the Parrots.) The European and North American genera of this order subsist principally upon caterpillars, worms, and the larvæ of insects; other exotic genera, with a thick and curved bill, give a preference to soft fruits, while others, with very strong and hooked bills, derive their subsistence from kernels and nuts. The greater number of those birds which have the toes disposed in pairs, nest in the natural cavities of old trees, and some, by the aid of their cutting wedged, bills, form

for themselves holes to answer this purpose. This order is, therefore, naturally divisible, by the form of the bill, into *two* families.

FIRST FAMILY.

IN these birds the *bill* is more or less arched. The *toes* are usually disposed in pairs, two before and two behind; sometimes, however, the external hind toe is reversible, or capable of being directed backward or forward.

PARROTS. (PSITTACUS, *Lin.*)

IN these the *BILL* is short, large, protuberant, extremely hard and robust, somewhat compressed, convex above and below, furnished with a cere at the base; both the mandibles movable; the upper curved from its origin, with the margins angular, the point hooked, and more or less subulate; lower mandible shorter, blunt, and curved at the point, which by use then sometimes presents two more or less obvious points. *NOSTRILS* basal, orbicular, open, and perforated within the boundary of the cere. *TONGUE* thick and fleshy, entire, rounded at tip, and sometimes pencillated (or divided into terminal threads, as in the *Toucans*.) *FEET* short and robust; the tarsus naked and reticulated, shorter than the outer toe; fore toes united at base, opposable to the hind ones; outer hind toe not versatile; sole of the foot broad and flat, nails incurved, rather large, and acute. — *WINGS* rather long; the 3 first primaries nearly equal, or very slightly graduated. *TAIL* of various forms, consisting of 12 feathers. — The *female* generally similar to the male; the *young* differ much from the adult, and pass through several changes previous to attaining their perfect plumage; the colors of which are unusually brilliant.

These remarkable and gregarious birds dwell in forests, chiefly in all the warm or mild climates, excepting Europe; a single small species exists however at the Straits of Magellan,* in the Southern hemisphere, which is much more prolific in kinds than the Northern. They are naturally noisy and unmusical, having little or no variety of note, until tamed and educated, when, in consequence of their docility, aptness, and happy conformation of vocal organs, they are

* *Psittacus smaragdinus*, Emerald Parakeet.

readily taught to articulate the sounds of the human voice, either in speech or music, with a surprising exactness, and exhibit also by no inconsiderable share of memory. They are, in short, perfect apes, and deserve to rank with the most intelligent of irrational animals.* They fly with the swiftness of wild pigeons, and climb by means of the bill and feet, which last, indeed, supply the place of hands, and are often employed for the prehension of their food. They feed on fruits and seeds, breaking the hardest pericarps, and inflicting powerful bites. They often build and roost in the cavities of decayed trees, and sometimes also nest in the bifurcation of large limbs, or in the cavities of rocks, laying from 2 to 4 roundish, white eggs twice a year. They are said to macerate the food for their young, and in captivity are nearly omnivorous, but give a preference to nuts and kernels. — NOTE. We have already remarked their affinity to the *Loxias*, one of the species being called indeed, by some, German Parrots; and the intermediate link seems decided in the *Psittirostra*! They have likewise a more remote affinity to the ACCIPITRES, from which, at the same time, their habits are wholly estranged. The Finches, allied to the Parrots in physical structure, have, also, like them, a remarkable degree of docility, and have been taught to perform feats with all the address and sagacity of monkeys.† The *Viduas*, in their elongated tails, seem almost to represent the section of the Parrakeets.

Subgenus. — PSITTACUS.

With the upper mandible furnished internally with a transverse process near the point.

* For further particulars concerning the docility of the Parrot, see the Introduction, p. 20, 21.

† See the Introduction, p. 21.



CAROLINA PARROT.

(*Psittacus carolinensis*, L. WILSON, iii. p. 89. pl. 26. fig. 1. AUDUBON, pl. 26. p. 135. Phil. Museum, No. 762.)

SP. CHARACT.—Green; head and neck yellow; forehead and cheeks orange; tail elongated. — The *young* without the yellow color.

OF more than 200 species now known to belong to this remarkable and brilliant genus, the present is the only one found inhabiting the United States; it is also restricted to the warmer parts, rarely venturing beyond the state of Virginia. West of the Alleghanies, however,

circumstances induce them commonly to visit much higher latitudes ; so that following the great valley of the Mississippi, they are seen to frequent the banks of the Illinois, and occasionally to approach the southern shores of Lake Michigan. Straggling parties even have sometimes been seen in the valley of the Juniata in Pennsylvania, and a flock, to the great surprise of the Dutch inhabitants of Albany, are said to have appeared in that vicinity. This species constantly inhabits and breeds in the Southern States, and is so far hardy as to make its appearance, commonly in the depth of winter, along the woody banks of the Ohio, the interior of Alabama, and the banks of the Mississippi and Missouri around St. Louis, and other places, when nearly all other birds have migrated before the storms of the season.

The Carolina Parakeets in all their movements, which are uniformly gregarious, show a peculiar predilection for the alluvial, rich, and dark forests bordering the principal rivers and larger streams, in which the towering cypress* and gigantic sycamore† spread their vast summits, or stretch their innumerable arms, over a wide waste of moving or stagnant waters. From these, the beech, and the hack-berry,‡ they derive an important supply of food. The flocks, moving in the manner of wild pigeons, dart in swift and airy phalanx through the green boughs of the forest ; screaming in a general concert, they wheel in wide and descending circles round the tall button-wood, and all alight in the same instant, their green vesture, like the fairy mantle, rendering them nearly invisible beneath the shady branches, where they sit, perhaps arranging their plumage, and, shuffling side by side, seem to caress, and scratch each other's heads with all the fondness and unvarying friendship of affec-

* *Cupressus disticha.*† *Platanus occidentalis.*‡ *Celtis occidentalis.*

tionate Doves. If the gun thin their ranks, they hover over the screaming, wounded, or dying, and returning and flying around the place where they miss their companions, in their sympathy seem to lose all idea of impending danger. More fortunate in their excursions, they next proceed to gratify the calls of hunger, and descend to the banks of the river, or the neighbouring fields in quest of the inviting kernels of the cockle burr,* and probably of the bitter-weed,† which they extract from their husks with great dexterity. In the depth of winter, when other resources begin to fail, they, in common with the Yellow-Bird, and some other Finches, assemble among the tall sycamores,‡ and hanging from the extreme twigs, in the most airy and graceful postures, scatter around them a cloud of down, from the pendant balls, in quest of the seeds, which now afford them an ample repast. With that peculiar caprice, or perhaps appetite, which characterizes them, they are also observed to frequent the saline springs or *licks* to gratify their uncommon taste for salt. Out of mere wantonness, they often frequent the orchards, and appear delighted with the fruitless frolic of plucking apples from the trees, and strewing them on the ground untasted. So common is this practice among them, in Arkansas Territory, that no apples are ever suffered to ripen. They are also fond of some sorts of berries, and particularly of mulberries, which they eat piecemeal, in their usual manner, as they hold them by the foot. According to Audubon, they likewise attack the outstanding stacks of grain in flocks, committing great waste ; and on these occasions, as well as the former, they are so bold or incautious as readily to become the prey of the sportsman in great numbers.

* *Xanthium strumarium*.† *Ambrosia*, species.‡ *Platanus occidentalis*.

Peculiarity of food appears wholly to influence the visits and residence of this bird, and in plain, champaign, or mountainous countries, they are wholly strangers, though common along the banks of all the intermediate water-courses and lagoons.

Of their manners at the interesting period of propagation and incubation we are not yet satisfactorily informed. They nest in hollow trees, and take little, if any pains, to provide more than a simple hollow in which to lay their eggs, like the Woodpeckers. Several females deposit their eggs in the same cavity; the number laid by each is said to be only 2, which are nearly round, and of a light greenish-white.* They are, at all times, particularly attached to the large sycamores, in the hollow trunks of which they roost in close community, and enter at the same aperture into which they climb. They are said to cling close to the sides of the tree, holding fast by the claws and bill; and into these hollows they often retire during the day, either in very warm or inclement weather, to sleep or pass away the time in indolent and social security, like the *Rupicolast*† of the Peruvian caves, at length only hastily aroused to forage at the calls of hunger. Indeed from the swiftness and celerity of their ærial movements, darting through the gleaming sunshine, like so many sylvan cherubs, decked in green and gold, it is obvious that their actions as well as their manners are not calculated for any long endurance; and shy and retiring from all society but that to which they are inseparably wedded, they rove abroad with incessant activity, until their wants are gratified, when, hid from sight, they again relapse into that indolence which seems a relief to their exertions.

* AUDUBON. Orn. Biog. i. p. 139.

† *Cock of the Rock* of Peru, which is also somewhat related, apparently, to the Parrots.

The Carolina Parrot is readily tamed, and early shows an attachment to those around who bestow any attention on its wants ; it soon learns to recollect its name, and to answer and come when called on. It does not, however, evince much, if any capacity, for mimicking human speech, or sounds of any kind ; and, as a domestic, is very peaceable and rather taciturn. It is extremely fond of nuts and almonds, and may be supported on the vegetable food usually given to other species. One which I saw at Tuscaloosa, a week after being disabled in the wing, seemed perfectly reconciled to its domestic condition ; and as the weather was rather cold, it remained the greater part of the time in the house, climbing up the sides of the wire fender to enjoy the warmth of the fire. I was informed, that when first caught it scaled the side of the room, at night, and roosted in a hanging posture by the bill and claws ; but finding the labor difficult and fruitless, having no companion near which to nestle, it soon submitted to pass the night on the back of a chair.

When placed in a cage out of doors, in a suitable situation, the call of the prisoner instantly awakens the sympathy of the passing flocks, who from the neighbouring trees sometimes enter into communion with their disabled or detained companion. A caged bird, as with some of the other species, and particularly the 'Inseparable,' is extremely pleased with the society of a companion, and they are observed to roost side by side, even thrusting their heads, at such times, into the plumage of each other, and thus, by a variety of delicate attentions, succeed in ameliorating the misfortunes of confinement and unnatural restraint. Even her own image in a looking-glass often seems to diminish the weariness of solitude, and by the side of this pleasing phantom, the Parrot or the Canary sinks satisfied to repose.

This species is about 13 inches long; and 21 in alar dimensions. The forehead and cheeks are orange-red; the rest of the head and neck of a rich yellow; shoulder and bend of the wing edged with orange-red. Above bright yellowish glossy green, with bluish reflections, diluted with yellow below; interior webs of the primaries dusky-purple, exterior ones bluish-green. Tail long and graduated, the exterior feathers only half the length of the middle ones; shafts of all the quills black. Knees and vent orange. Feet a pale whitish flesh-color; claws black. Bill white, slightly tinted with cream-color. Iris hazel. In the young birds the head and neck is wholly green, except the front and cheeks, which are orange, as in the adults. — Though tough, like the Pigeon, the flesh of this Parrot is commonly eaten in the Southern States, but, from my own experience, I cannot consider it as very palatable. The brains and intestines have likewise been said to be a poison to cats, though apparently without any foundation, according to the experiment of Wilson.

COCCYZUS. (American Cuckoo.)

The BILL rather robust, long, compressed the whole length, carinated, entire, with both mandibles gently curved from the base and reflected at the points, the upper somewhat longer. NOSTRILS basal, lateral, oval, half closed by a naked membrane. TONGUE short, narrow, acute. FEET slender; tarsus naked, robust, longer or only about the length of the longest toe, the 2 anterior toes united at the base; nails short and but little curved. — Wings rather short; spurious feather short, 3d and 4th primaries longest. Tail moderate or long, not emarginated, consisting of 10 feathers.

These birds inhabit the warmer parts of both continents, though there are none in Europe; two or three species inhabit the United States during summer. They replace here the true Cuckoos of the old continent, from which they scarcely at all differ except in habit. They build, however, *generally*, a nest in tall thickets, trees, or hollow trunks, and breed up their young. They usually reside in forests or orchards, are shy, and fond of solitude, hiding and crouching beneath the shady branches, and seldom if ever alight on the ground. They feed on insects and berries, particularly on the hairy caterpillars rejected by other birds, in the digestion of which they are assisted by disgorging at intervals the roughened skins; they are also exceedingly greedy of the eggs of other birds. They moult once a year, and there is but little difference in plumage between the sexes, or between the old and the young; the female is, however, somewhat larger.

§ 1. *Tarsus about the length of the longest toe, knees feathered.*

YELLOW-BILLED CUCKOO, OR RAIN-CROW.

(*Coccyzus americanus*, BONAP. AUDUBON, pl. 2. Orn. i. p. 18.

Cuculus carolinensis, WILSON, iv. p. 13. pl. 28. fig. 1. *C. americanus*, L. Phil. Museum, No. 1778.)

SP. CHARACT. — Dark greyish-brown with bronzy reflections; beneath white; inner vanes of the primaries reddish cinnamon-color; the lower mandible yellow.

THE American Cuckoo arrives in the Middle and colder States of the Union about the close of April or the first week of May, but is scarcely known to the north of Massachusetts. They probably winter in Mexico, and some pass no farther than the forests of Louisiana.* Latham speaks of this species, also, as an inhabitant of the tropical island of Jamaica. It delights in the shady retirement of the forest, and is equally common in tall thickets and orchards, where, like a piratical prowler, it skulks and hides among the thickest boughs; and although, unlike the European Cuckoo, they are faithfully paired, yet the pair are seldom seen in the same tree, but, shy and watchful, endeavour to elude every thing like close observation. The male, however, frequently betrays his snug retreat by his monotonous and guttural *ków ków ków ków*, or *koo koo koo koo*, and *kó kŭk, kó kŭk, koo koo koo kuk, koo kŏ koo, koo kŏ koo*, uttered rather low and plaintively, like the call of the Dove. At other times, the *kow kow kow*, and *'tk 'tk 'tk 'tk 'tăk*, or *'kh 'kh 'kh 'kh 'kah kow kow kow kow*, beginning slow, rises, and becomes so quick as almost to resemble the grating of a watchman's rattle, or else, commencing with this call, terminates in the distant cry of *kow kow kow*. From this note, supposed to be most clamorous at the approach of rain,

* AUDUBON, Orn. Biog. i. p. 19.

it has received, in Virginia and other states, the name of *Rain-Crow*, and also *Kow-Bird*. At various seasons, during the continuance of warm weather, the vigil *kow kōw kōw kow* of the faithful male is uttered for hours, at intervals, throughout the night. The same notes, but delivered in a slower and rather tender strain, are given with great regularity likewise in the day as long as the period of incubation continues. He often steadfastly watches any approach to the nest, going to it occasionally to assure himself that it is unmolested; and, at times, he may be observed darting even at the dormant bat, who accidentally seeks repose beneath the shady leaves of some contiguous tree, so that he is no less vigilant in seeking the security of his own progeny, than in piratically robbing the nests of his neighbours. There are two or three other species in Jamaica and other parts of tropical America, possessing a note very similar to that of our bird, which also frequently approaches, when delivered in the plaintive mood, *kōo koo*, and *koo koo kōo*, the usual sound of the European Cuckoo. There is a Mexican species (*Cuculus ridibundus*) which so simulates laughter, as to have awakened the superstition of the natives, by whom it is consequently hated as a messenger of misfortune, whose accidental note of sardonic risibility, is construed into an ominous delight in misery.

The whole tribe of Cuckoos are in disgrace for the unnatural conduct of the European and some other foreign species, who, making no nests, nor engaging in conjugal cares, parasitically deposit their eggs, one by one, in the nests of other, small birds, to whom the care of rearing the vagrant foundling is uniformly consigned. This whitish and darkly spotted egg, so different from that of our dubious species, is supposed to be conveyed into sev-

eral of the nests where it is found, in some way or other, after being laid, for in no other manner could it be deposited in the closed nest of the Common Wren, or that of the Chiff-Chaff* and other small kinds. The piratic habit governs the Cuckoo from its very birth, and the deceived foster-parent, by her kindness, has brought out, in the ruthless foundling, the dragon of her own offspring, every one of them being instinctively thrown out of the nest to die by this intruder on nature's benevolence. So exclusive, indeed, is this assumption of usurped existence, that when two Cuckoos have been hatched (as sometimes happens) in the same nest, a continual contest ensued until the stronger ejected the weaker, and exposed it to perish! We shudder at the instinctive expression of so much deliberate treachery in nature, of a still deeper cast than that which presides over the birth of our *Cow-Bunting*, for here the supposititious charge comes into life before the hatching of the other eggs of the nurse, and though the genuine brood mostly perish, as soon as they appear, the foundling exhibits no hostility towards them. But where we cannot follow nor explain the decrees of creation, we must bow in reverence to those necessary and inscrutable laws which govern the universe in wisdom.

From reflections so appalling, on the birth of the foreign Cuckoo, we may turn with satisfaction to the conjugal history of our present subject, which, early in May, or soon after its arrival, may be, at times, observed obstinately engaged in the quarrels of selective attachment. The dispute being settled, the nest is commenced and usually fixed either in the horizontal branches of an apple tree, or in a thicket, a thorn bush, crab, cedar, or other small tree in some retired part of the woods. The

* *Sylvia hypoleis*.

fabric is usually very slovenly and hastily put together, and possesses scarcely any concavity for the reception of the young, who, in consequence, often fall out of their uncomfortable cradle. The nest is a mere flooring of twigs put together in a zig-zag form, then blended with green weeds or leaves, and withered blossoms of the maple, apple, or hickory catkins. A nest near the Botanic Garden had, besides twigs, fragments of bass-mat, and was now very uncomfortably heated and damp with the fermentation of the green tops of a species of maple introduced into it, and the whole swarmed with Thrush-lice or Millipedes. The eggs, usually 2 to 4, are of a bluish-green color, often pale, varying in the shade, and without spots; they are somewhat round and rather large. If they are handled before the commencement of incubation, the owner generally forsakes the nest, but is very tenacious and affectionate towards her young, and sits so close, as almost to allow of being taken off by the hand. She then frequently precipitates herself to the ground fluttering, tumbling, and feigning lameness in the manner of many other affectionate and artful birds, to draw the intruder away from the premises of her brood. At such times, the mother also adds to the contrivance, by uttering most uncouth and almost alarming guttural sounds, like *quà quàh gwaih*, as if choaking, as she runs along the ground. While the female is thus dutifully engaged in sitting on her charge, the male takes his station at no great distance, and gives alarm by his notes, at the approach of any intruder; and when the young are hatched, both unite in the labor of providing them with food, which, like their own, consists chiefly of the hairy caterpillars, rejected by other birds, that so commonly infest the apple trees, and live in communities within a common silky web. They also devour the large yellow

cock-chaffer*, *Carabi*, and other kinds of insects, as well as various sorts of berries ; but their worst propensity is the parasitic habit of sucking the eggs of other birds, thus spreading ruin and dismay wherever they approach. They hatch several broods in a season, and I have seen a nest with eggs in it as late as the 28th of August ! though they usually take their departure in some part of the month of September. Considering the time they are engaged in breeding, they raise but few young, appearing to be improvident nurses, and bad nest-makers, so that a considerable part of their progeny are either never hatched, or perish soon after ; a fortunate balance to check the increase of their numbers, and circumscribe the otherwise evil of their existence. They are greatly attached to places where small birds resort, for the sake of sucking their eggs ; and I have found it difficult at times to eject them, as when their nests are robbed, without much concern, they commence again in the same vicinity, but adding caution to their operations, in proportion to the persecution they meet with ; in this way, instead of their exposing the nest in some low bush, I have, with difficulty, met with one, at last, in a tall larch more than 50 feet from the ground. When wholly routed, the male kept up a mournful *ków kow ków* for several days, appearing now sensible by experience of the misery of his own predatory practices.

Careless in providing comfort for their progeny, the American Cuckoo, like that of Europe, seems, at times, inclined to throw the charge of her offspring on other birds. Approaching to this habit, I have found an egg of the Cuckoo in the nest of a Cat-Bird ; yet, though the habitation had been usurped, the intruder probably intended to hatch her own eggs. At another time,

* *Melolontha lanigera*.

on the 15th of June (1830), I saw a Robin's nest with 2 eggs in it, indented and penetrated by the bill of a bird, and the egg of a Cuckoo deposited in the same nest. Both birds forsook the premises, so that the object of this forcible entry was not ascertained ; though the mere appropriation of the nest would seem to have been the intention of the Cuckoo.

This species is about 12 inches long ; and 16 in alar extent. Above dark greyish-brown with greenish and yellowish silky reflections. Tail long, the 2 middle feathers of the color of the back ; the others dusky gradually shortening to the outer ones, with large white tips ; the two outer scarcely half the length of the middle ones. Below white ; the feathers of the thighs large, and hiding the knees as in the Hawks. Legs and feet pale greyish-blue. Iris hazel, eyelids yellow or black. Lower part of the upper mandible also yellow. Inner coat of the stomach villous. — In the *female*, which is larger, the 4 middle tail-feathers are without white spots.

ST. DOMINGO CUCKOO.

† (*Coccyzus dominicus*, NOBIS. *Cuculus dominicus*, LIN. Black-billed Cuckoo. *C. erythrophthalmus*, WILSON, iv. p. 16. pl. 28. fig. 2. AUDUBON, pl. 32. Orn. i. p. 170. Phil. Museum, No. 1854.)

SP. CHARACT. — Dark greyish-brown with faint bronzy reflections ; beneath white, inclining to cinereous on the throat and breast ; inner vanes of the primaries partly yellowish-white ; bill black ; a naked red space round the eye.

THIS species, so nearly related to the preceding, is also equally common, throughout the United States in summer, and extends its migrations about as far as the line of New Hampshire. This kind also exists in the island of St. Domingo and Guiana, and those who visit us probably retire to pass the winter in the nearest parts of tropical America. They arrive in Massachusetts later than the Yellow-billed Cuckoo, and the first brood are hatched here about the 4th of June. In Georgia they begin to lay towards the close of April. Their food, like that of the pre-

ceding, also consists of hairy caterpillars, beetles, and other insects, and even minute shell-fish. They also, like many birds of other orders, swallow gravel to assist digestion.

They usually retire into the woods to breed, being less familiar than the former, choosing an evergreen bush or sappling for the site of the nest, which is made of twigs, pretty well put together, but still little more than a concave flooring, and lined with moss occasionally, and withered catkins of the hickory. The eggs are smaller, and 3 to 5 in number, of a bluish-green. The female sits very close on the nest, admitting a near approach before flying; the young, before acquiring their feathers, are of an uniform bright greyish-blue; at a little distance from the nest the male keeps up the usual rattling call of *kow kow kow kow*, the note increasing in loudness and quickness; sometimes the call seems like *kh' kh' kh' kh' 'kh' 'kah*, the notes growing louder and running together like those of the Yellow-winged Woodpecker. This species has also, before rain, a peculiar call, in a raucous guttural voice like *orrattōtoo*, or *worrattōtoo*. This species is less timorous than the Yellow-billed kind, and near the nest with young, I have observed the parent composedly sit and plume itself for a considerable time without showing any alarm at my presence. This bird is also equally addicted to the practice of sucking birds' eggs. Indeed, one which I saw last summer, kept up for hours a constant watch after the eggs of a Robin sitting in an apple tree, who with her mate, kept up a running fight with the Cuckoo for two days in succession.

The Black-billed species is about $12\frac{1}{2}$ inches long. The 2 central tail-feathers unspotted, the white terminal spots on the rest smaller and bordered with dusky. Inner lining, and inner webs of the wing quills, of a delicate cream-color. Wings pointed, the 1st primary very short, the 2d a little more than $\frac{1}{2}$ an inch shorter than the 3d,

which is scarcely longer than the 4th; the rest of the quills are again, beyond the 4th, all regularly graduated to the secondaries; there is a strong tinge of cinnamon-brown edging about the centre of the wing, and on the anterior edges of the larger coverts. Bill bluish-black, the base of the lower mandible and ridge paler. Feet and legs dusky-bluish, the former very short, and hidden with feathers which surround the knee. The naked dull vermilion spot around the eye is very characteristic; it is also attributed to the *C. vetula* or Long-billed Rain Cuckoo by Linnæus, though not given at all in Buffon's figure. In fact, the specific definition of *Vetula* applies wholly to our bird, and may be it instead of the species quoted under this name by Latham. Although there appears to be a difference in the measurement of our bird from the *C. dominicus* of authors, Buffon gives it nearly 12 inches, and Brisson saw a specimen from Louisiana which could be no other than the present; from his figure, however, no conclusion can be drawn on the subject.

§ II. *Tarsus longer than the toes, and the knees naked.*

† MANGROVE CUCKOO.

(*Coccyzus Seniculus*, NOBIS. *Cuculus Seniculus*, LATH. Index i. p. 219. No. 38. IBID. Synops, ii. p. 537. No. 34. BUFFON, pl. Enlum. 813.)

SP. CHARACT. — Cinereous-olive; throat white, body below pale-rufous; lower mandible yellowish-white.

This species, said principally to inhabit Cayenne, occasionally visits the Southernmost States. Like the preceding, it lives upon insects, and is particularly fond of the large caterpillars which prey upon the leaves of the Mangrove, and in the dense forests of which it consequently takes up its principal residence. This species I have never seen, and introduce it only on the authority of Vieillot. It is said to resemble the Rain-Bird of Jamaica (*Coccyzus vetula*) in almost every thing but size, being only about 12 inches long. The bill, light-colored below, is about 13 lines long (French measure), and the tarsus 12. The tail is about 6 inches long, with the two

middle feathers not spotted at the extremity, as are the rest. The bill is stouter and higher at the base apparently than in our common kinds. The nakedness and superior length of the tarsus, so different from the two preceding species, appears to have afforded an exclusive unmodified generic trait to the founder of the genus, which we have endeavoured to remedy by sectional divisions. The definition of *C. vetula* by Linnæus, "beneath testaceous, above brownish, with red eyebrows," induced Mr. Abbot, on the authority of Latham,* to quote the *vetula* as an inhabitant of Georgia (our *C. dominicus*); and there is little doubt but Linnæus described from this species, so wholly different from that assumed as such by Latham (the *Tacco*), which has never yet been seen within the boundaries of the United States. If the synonyme of Linnæus had not been so embroiled by Latham, we should not have hesitated to give the name of *vetula* to Wilson's *C. erythrophthalma*.

2d. Family. (SAGITTILINGUES. *Illiger. Bonap.*)

In these the BILL is generally long, straight, conic, and edged. The TONGUE is also extremely long, capable of great extension, sharp and rigid at the point, and armed at the edges with stiff reversed bristles. The 4 TOES are always disposed in opposite pairs, 2 before and 2 behind; rarely there exists but a single hind toe.

PICUS. *Lin.* (WOODPECKERS.)

The BILL long, or moderate, usually straight, pyramidal, compressed, cuneate, and edged like scissars towards the point; above, in general, straightly carinated. NOSTRILS basal, oval, open, though partly hidden by the advancing bristly feathers of the face. FEET short and robust, suited for climbing; hind toes divided; the outer incapable of being reversed, the inner toe minute or rarely wanting; the two anterior ones united at the base. *Wings*, moderate in length,

* Suppl.vol. ii. p. 135. No. 5.

the 1st primary very short, the 2d of middling length, and the 3d and 4th longest. *Tail* cuneiform, of 12 feathers, the 2 lateral being very short or wholly wanting, the shafts strong and elastic. — The *female* resembles the male, though readily distinguishable. The *young* sometimes considerably different.

These unmusical, coarse, robust, and laborious birds dwell generally in the solitude of the forest, are usually of a shy, suspicious, and retiring habit, and not easily reconciled to domestication. The peculiar structure of their feet and sharp nails enable them, by the additional support of the rigid tail, to ascend the trunks of trees and branches with singular address and celerity, either in straight or spiral lines. They feed principally upon the larvæ of those insects which perforate the wood of trees, and are consequently extremely useful scavengers to the public, and well deserve their protection. Some also collect ants and other kinds of insects; and in the winter, as well as the summer, they also add various kinds of wild berries to their fare. Their operations are carried on chiefly in dead or decaying trees, which they perforate and strip of the bark with repeated strokes of their powerful wedged bills; in obedience to their habits they are seldom seen on the ground. By the acuteness of their hearing they discover the lodgment of their prey, and seldom cease till they have obtained it. While thus employed, the silent woods reverberate the stridulous echoes of their rapid and tremulous blows; and at length, darting their long, viscid tongues into the burrows of the insects, they extract them with ease and alacrity. Their nests are also made either in the natural or artificial excavations of the trunks of trees. They breed once in the year, and lay from 3 to 8, usually white and spotless, eggs. Their moult is simple or only annual. Species of the genus are found in almost every part of the world.

Subgenus. — COLAPTES. (Genus COLAPTES. *Swains.*)

The BILL long and gently curved, wedged at the point, and with the under mandible not carinated. Feet 4-toed. — Distantly allied to the American Cuckoos. Two other species of this section, or genus, inhabit South Africa, at the Cape of Good Hope. The American species preys from preference on ants, in quest of which it often descends to the ground, as well as perforates decayed trees; they also in winter live much upon berries.



FLICKER, OR GOLDEN-WINGED WOODPECKER.

(*Picus auratus*, L. WILSON, i. p. 45. pl. 3. fig. 1. [male]. AUDUBON, pl. 37. Orn. Biog. i. p. 191. Phil. Museum, No.)

SP. CHARACT. — Umber-brown, barred with black ; beneath yellowish-white, spotted with black : a black crescent on the breast ; a crimson red crescent on the hind head ; wings and tail beneath, and shafts of all the larger feathers, golden-yellow. — The *male* alone with black mustachios. — *Young*, dull grey, without either the red or black crescent.

THIS beautiful and well known bird breeds and inhabits throughout North America, from Labrador to Florida, being partially migratory only from Canada and the Northern States, proceeding to the south in October, and returning north in April. It has also been observed on

the Northwest Coast of the continent, as well as round Nootka Sound, and in the interior of Canada, near to the remote lake of Winnipique. From the great numbers seen in the Southern States in winter, it is evident that the principal part of the species migrate thither from the North and West to pass the inclement season, which naturally deprives them of the means of acquiring their usual sustenance. At this time also they feed much on winter berries, such as those of the sumach, smilax, and misseltoe. In the Middle States, some of these birds find the means of support through the most inclement months of the winter. In New England, they reappear about the beginning of April, soon after which they commence to pair and build; for this purpose they often make choice of the trunk of a decayed apple tree, at different heights from the ground. When an accidental cavity is not conveniently found, confident in the formidable means provided them by nature, with no other aid than the bill, they have been known to make a winding burrow through a solid oak for 15 inches in length. At this labor, for the greater security and privacy, they continue till late in the evening, and may be heard dealing blows as loud and successive as if aided by the tools of the carpenter. The eggs, about 6, and pure white, are deposited merely upon the fragments of wood which line the natural or artificial cavity thus forming the nest. This cell, before the young are fledged, has a rank and disagreeable smell; and on inserting the hand into it, the brood unite in producing a hissing, like so many hidden snakes. They soon escape from this fetid den in which they are hatched; and, climbing into the higher branches of the tree, are there fed until able to fly. In the month of March, in Florida and Alabama, I observed them already pairing, on which occasion many petulant

quarrels daily ensued, from a host of rival suitors, accompanied by their ordinary cackling and squealing. One of their usual complaisant recognitions, often delivered on a fine morning, from the summit of some lofty dead limb, is 'wit a 'wit 'wit 'wit 'wit 'wit 'wit weet, and *woit a woit, woit woit woit woit*, commencing loud, and slowly rising and quickening till the tones run together into a noise almost like that of a watchman's rattle. They have also a sort of complaining call, from which they have probably derived their name of *pee ùt, pee ùt*; and at times a plaintive *quéàh quéàh*. Occasionally they also utter in a squealing tone, when surprised, or engaged in amusing rivalry with their fellows, *wee-cõgh wee-cõgh wee-cõgh*, or *weecũp weecũp*.

The food of this species varies with the season; they are at all times exceedingly fond of woodlice, ants, and their larvæ; and as the fruits become mature, they also add to their ample fare, common cherries, bird cherries, winter grapes, gum berries, those of the red-cedar, as well as of the sumach, smilax,* and other kinds. As the maize too ripens, while yet in the milky state, the Flicker pays frequent visits to the field, and the farmer, readily forgetful of his past services, only remembers his present faults, and, closing his career with the gun, unthinkingly does to himself and the public an essential injury, in saving a few unimportant ears of corn. In this part of New England they are known by the name of Pigeon Woodpeckers from their general bulk and appearance; and, to the disgrace of our paltry fowlers, they are, in the autumn, but too frequently seen exposed for sale in the markets, though their flesh is neither fat nor delicate. It is exceedingly to be regretted that ignorance and wan-

* Particularly those of *S. laurifolia*.

tonness, in these particulars, should be so productive of cruelty, devastation, and injurious policy, in regard to the animals with whose amusing and useful company nature has so wonderfully and beneficently favored us.

The length of this species is about 12 inches, the alar extent 20. The back and wings above are of an umber-color, transversely barred with black; the upper part of the head inclines to cinereous; cheeks and region round the eye cinnamon-color, the throat and chin a lighter tint of the same; from the lower mandible a strip of black descending to the throat; a crimson crescent on the hind head; sides of the neck bluish-grey; a black broadish crescent on the breast. Below yellowish-white, each feather with a distinct round central black spot, those on the thighs and vent heart-shaped. Lower side of the wing and tail, as well as the shafts of most of the larger feathers golden-yellow. Rump white; the tail-coverts white, and curiously serrated with black; upper side of the tail and tip below black, the 2 exterior feathers serrated with whitish; shafts black towards the tips, the 2 middle ones almost wholly so. Bill $1\frac{1}{2}$ inches long, of a dusky horn-color. Legs and feet light blue. Iris hazel. In the group given by Audubon, the size appears somewhat smaller, the crimson crescent on the hind-head much duller, the head more grey, the lower mandible pale bluish, and the under side of the tail, in the male, almost entirely *green*. Can this southern bird be the same species with ours?

* *With the bill straight, and carinated above and below* (proper WOODPECKERS). — † The feet 4-toed.

IVORY-BILLED WOODPECKER.

(*Picus principalis*, L. WILSON, iv. p. 20. pl. 29. fig. 1. [male.] AUDUBON pl. 66. Orn. i. p. 341. [a very imposing and spirited group.] Phil. Museum, No. 1884.)

Sp. CHARACT. — Black; crest red and black; secondaries, rump, and a stripe on each side, white; the bill white. — In the *female* and *young* the crest is wholly black.

THIS large and splendid species is a native of Brazil, Mexico, and the Southern States, being seldom seen to the north of Virginia, and but rarely in that state. It is a constant resident in the countries where it is found, in

the warmer regions, breeding in the rainy season, and the pair are believed to be united for life. More vagrant, retiring, and independent than the rest of his family, he is never found in the precincts of cultivated tracts ; the scene of his dominion is the lonely forest amidst trees of the greatest magnitude. His reiterated trumpeting note, somewhat similar to the high tones of the clarionet (*pait pait pait pait*), is heard, soon after day, and until a late morning hour, echoing loudly from the recesses of the dark cypress swamps, where he dwells in domestic security, without showing any impertinent or necessary desire to quit his native solitary abodes. Upon the giant trunk and moss-grown arms of this colossus of the forest, and amidst almost inaccessible and ruinous piles of mouldering logs, the high rattling clarion and rapid strokes of this princely Woodpecker are often the only sounds which vibrate through, and communicate an air of life to these dismal wilds. His stridulous, interrupted call, and loud, industrious blows, may often be heard for more than half a mile, and become audible, at various distances, as the elevated mechanic raises or depresses his voice, or as he flags or exerts himself in his laborious employment. His retiring habits, loud notes, and singular occupation, amidst scenes so savage yet majestic, afford withal a peculiar scene of solemn grandeur, on which the mind dwells for a moment with sublime contemplation, convinced that there is no scene in nature devoid of harmonious consistence. Nor is the performance of this industrious hermit less remarkable than the peals of his sonorous voice, or the loud choppings of his powerful bill. He is soon surrounded with striking monuments of his industry ; like a real carpenter (a nick-name given him by the Spaniards), he is seen surrounded with cart-loads of chips, and broad flakes of bark, which rapidly accumu-

late round the roots of the tall pine and cypress where he has been a few hours employed ; the work of half a dozen men, felling trees for a whole morning, would scarcely exceed the pile he has produced in quest of a single breakfast upon those insect larvæ which have already, perhaps, succeeded in deadening the tree preparatory to his repast. Many thousand acres of pine trees, in the Southern States, have been destroyed in a single season by the insidious attacks of insects, which in the dormant state are not larger than a grain of rice. It is in quest of these enemies of the most imposing part of the vegetable creation that the industrious and indefatigable Woodpecker exercises his peculiar labor. In the sound and healthy tree he finds nothing which serves him for food.

One of these birds, which Wilson wounded, survived with him nearly three days, but was so savage and unconquerable as to refuse all sustenance. When taken, he uttered a loud and piteous reiterated complaint, almost exactly like the violent crying of a young child ; and on being left alone in a tavern, in the course of an hour, he had nearly succeeded in making his way through the side of the wooden house. He also cut the author severely in several places while engaged in drawing his portrait, and displayed, as long as he survived, the unconquerable spirit of a genuine son of the forest. From his magnanimous courage and ardent love of liberty, the head and bill are in high esteem among the amulets of the southern Indians.

The nest of this species is usually made in the living trunk of the cypress tree, at a considerable height, both sexes alternately engaging in the labor. The excavation is said to be two or more feet in depth. The eggs, 4 or 5, are white, and nearly of equal thickness at either end.

The young are fledged and abroad about the middle of June. It is usually known by the name of the *Large Log-cock*. This species appears to live almost wholly upon insects, and chiefly those that bore into the wood, which never fail in the country he inhabits; nor is he ever known to taste of Indian corn, or any other sort of grain, or orchard fruits, though he has a fondness for grapes and other kinds of berries.

This species is about 20 inches in length, and about 30 in alar dimensions. The general color black, with a gloss of green. Fore part of the head black, the rest of the crest crimson, with some white at the base. A stripe of white proceeds, from a little below the eye, down each side of the neck, and along the back (where the two are about an inch apart), nearly to the rump. Tail black, tapering from the 2 exterior feathers, which are 3 inches shorter than the middle ones, the feathers concave below. Legs lead-color. Bill an inch broad at base, of the color and consistence of ivory, and channelled. The tongue also white. Iris vivid yellow.

PILEATED WOODPECKER, OR LOG-COCK.

(*Picus pileatus*, L. WILSON, iv. p. 27. pl. 29. fig. 2. [male.])

SP. CHARACT.—Brownish-black; crest red; chin, a stripe on either side of the neck, as well as the base of the quill-feathers, and under wing-coverts, white; the bill black.—The mustachios of the *male* red; in the *female* and *young* dusky.

THIS large and common Woodpecker, considerably resembling the preceding species, is not unfrequent in well timbered forests, from Mexico to the remote regions of Canada, at least to the 50th degree of north latitude; and in all the intermediate region he resides, breeds, and passes most of the year, retiring in a desultory manner only into the Southern States for a few months, in the most inclement season, from the north and west. In Pennsylvania, however, they are seen as residents more or less throughout the whole year; and Mr. Hutchins

met with this species in the interior of Hudson's bay, near Albany river, in the month of January. It is however, sufficiently singular, and shows perhaps the wild timidity of this northern chief of his tribe, that, though an inhabitant towards the savage and desolate sources of the Mississippi, he is unknown, at this time, in all the maritime parts of the populous and long settled state of Massachusetts. In the western parts of the state of New York he is sufficiently common in the uncleared forests, which have been the perpetual residence of his remotest ancestry. From the tall trees, which cast their giant arms over all the uncleared river lands, may often be heard his loud, echoing, and incessant cackle, as he flies restlessly from tree to tree, presaging the approach of rainy weather. These notes resemble *ekerek rek rek rek rek rek*, uttered in a loud cadence, which gradually rises and falls. The marks of his industry are also abundantly visible on the decaying trees, which he probes and chisels with great dexterity, stripping off wide flakes of loosened bark, to come at the burrowing insects which chiefly compose his food. In whatever engaged, haste and wildness seem to govern all his motions, and by dodging and flying from place to place, as soon as observed, he continues to escape every appearance of danger. Even in the event of a fatal wound, he still struggles, with unconquerable resolution, to maintain his grasp on the trunk to which he trusts for safety, to the very instant of death. When caught by a disabling wound, he still holds his ground against a tree, and strikes with bitterness the suspicious hand which attempts to grasp him, and, resolute for his native liberty, rarely submits to live in confinement. Without much foundation, he is charged, at times, with tasting maize. In winter, in South Carolina, I have observed them occasionally making a

heartily repast on holly and smilax berries. Like the preceding, the Log-cock frequently digs out a cavity in some tree, as a deposit for his eggs and brood. The eggs are about 6, of a snowy whiteness; and they are said to raise two broods in the season.

The Pileated Woodpecker is about 18 inches in length, and 28 in alar extent. The crest and mustachios bright scarlet, inclining to crimson. Chin, stripe from the nostrils passing down the side of the neck to the sides and extending under the wings, white; the upper half of the wings white, but concealed by the black coverts; lower extremities of the wings, and the rest of the body brownish-black. Legs lead color. Bill fluted, bluish-black above, below, and at point bluish-white. Iris golden.

RED-HEADED WOODPECKER.

† (*Picus erythrocephalus*, L. WILSON, 1. p. 142. pl. 9. fig. 1. AUDUBON, pl. 27. Orn. 1. p. 141. [The male and female feeding their half fledged young.] Phil. Museum, No. 1922.)

SP. CHARACT. — Head, neck, and throat, crimson; the back, wings, and tail, black, with bluish reflections; secondaries, rump, lower part of the back, and under parts of the body, white. — *Female* less brightly colored. — The *Young* with the head and neck dull grey, varied with blackish.

THE geographic limits of this common and well known species are coextensive with the preceding. It is met with, in short, from the sources of the Mississippi, in latitude 50°, to the Gulph of Mexico, was observed by Mr. Say in the region of the Rocky Mountains, and by Lewis and Clarke in the forests near the Pacific. In all the intermediate country, however extensive, it probably resides and breeds. At the approach of winter, or about the middle of October, they migrate from the north and west, and consequently appear very numerous in the Southern States at that season. Many of them also probably pass into the adjoining provinces of Mexico, and they reappear in Pennsylvania, (according to Wil-

son,) about the first of May. According to Audubon, they effect their migration in the night, flying high above the trees in a straggling file, at which time they are heard to emit a sharp and peculiar note, easily heard from the ground, although the birds themselves are elevated beyond the sight. Like the preceding, the present species is but rarely seen in the maritime parts of Massachusetts, this region is only occasionally visited by solitary stragglers ; yet, in the western parts of the state, they are said to be as common as in the middle states.

They live principally in old forests of tall trees, but are much less shy than most of the genus, frequently visiting the orchards in quest of ripe fruits, particularly cherries, and juicy pears and apples, with which they likewise occasionally feed their young. They also at times, eat acorns, of which they are said to lay up a store, and visit the maize fields, being partial to the corn while in its juicy or milky state. In consequence of these dependent habits of subsistence, the Red Headed Woodpecker is a very familiar species, and even sometimes not only nests in the orchard which supplies him with sustenance, but ventures to rear his brood within the boundaries of the most populous towns. In the latter end of summer, their reiterated tappings and cackling screams are frequently heard from the shady forests which border the rivulets in more secluded and less fertile tracts. It is also not uncommon to observe them on the fence rails and posts, near the public roads, flitting before the passenger with the familiarity of Sparrows. In the Southern States, where the mildness of the climate prevents the necessity of migration, this brilliant bird seems half domestic. The ancient live oak, his cradle and residence, is cherished as a domicil, he creeps around its ponderous weathered arms, views the passing scene with

complacence, turns every insect visit to his advantage, and for hours together placidly reconnoitres the surrounding fields; at times he leaves his lofty citadel to examine the rails of the fence, or the boards of the adjoining barn; striking terror into his lurking prey by the stridulous tappings of his bill, he hearkens to their almost inaudible movements, and discovering their retreat, dislodges them from their burrows, by quickly and dexterously chiseling out the decaying wood in which they are hid, and transfixing them with his sharp and barbed tongue. But his favorite and most productive resort is to the adjoining fields of dead and girdled trees; amidst whose bleaching trunks, and crumbling branches, he long continues to find an ample repast of depredating and boring insects. When the cravings of appetite are satisfied, our busy hunter occasionally gives way to a frolicsome or quarrelsome disposition, and with shrill and lively vociferations, not unlike those of the neighbouring tree-frog, he pursues in a graceful curving flight his companions or rivals round the bare limbs of some dead tree to which they resort for combat or frolick.

About the middle of May, in Pennsylvania, they burrow out or prepare their nests in the large limbs of trees, adding no materials to the cavity which they smooth out for the purpose. As with the Blue-Bird, the same tree continues to be employed for several years in succession, and probably by the same undivided pair. The eggs, about 6, are said to be white, marked at the great end with *reddish spots*, in which last particular, they differ from all others of the genus. The first brood make their appearance about the 20th of June. The eggs and young of this, and many other birds, occasionally fall a prey to the attacks of the common Black Snake.

The length of this species is about $9\frac{1}{2}$ to 10 inches, the alar stretch about 17. Bill light-blue. Legs bluish green. Iris dark-hazel.

RED-BELLIED WOODPECKER.

† (*Picus carolinus*, L. WILSON, 1. p. 113. pl. 7. fig. 2. [male.] Phil. Museum. No. 1944.)

SP. CHARACT.—Barred with black and white; head and neck above red-lead color; cheeks and parts beneath pale yellowish-buff; the belly tinged with red.—*Female* and *Young* with the fore part of the head without red.

THIS species inhabits the whole North-American continent, from the interior of Canada to Florida, and even the island of Jamaica, in all of which countries it probably rears its young, migrating only partially from the colder regions. This also, like the preceding, is unknown in all the eastern parts of Massachusetts and probably New Hampshire.

The Red-Bellied Woodpecker, dwells in the solitude of the forest; amidst the tall and decayed trees only he seeks his less varied fare, and leads a life of roving wildness and independence, congenial with his attachment to freedom and liberty. Sometimes, however, on the invasion of his native haunts by the progress of agriculture, he may be seen prowling among the dead and girdled trees which now afford him an augmented source of support; and, as a chief of the soil, he sometimes claims his native rights by collecting a small tythe from the usurping field of maize. His loud and harsh call of 'tshow 'tshow 'tshow 'tshow, reiterated like the barking of a cur, may often be heard, through the course of the day, to break the silence of the wilderness in which his congenial tribe are almost the only residents. On a fine spring morning, I have observed his desultory ascent up some dead and lofty pine, tapping at intervals, and dodging from side to side, as he ascended in a spiral line; at length, having gained the towering summit, while basking in the mild sunbeams, he sur-

veys the extensive landscape, and almost with the same reverberating sound as his blows, at intervals, he utters a loud and solitary '*cur'rh*' in a tone as solemn as the tolling of the Campanero; he thus hearkens, as it were, to the shrill echoes of his own voice, and for an hour at a time, seems alone employed in contemplating, in cherished solitude and security, the beauties and blessings of the rising day.

The nest, early in April, is usually made in some lofty branch; and in this necessary labor both the sexes unite to dig out a circular cavity for the purpose, sometimes out of the solid wood, but more commonly into a hollow limb. The eggs, about 5, are white, and the young appear towards the close of May or early in June, climbing out upon the higher branches of the tree, where they are fed and reared until able to fly, though in the mean time from their exposure they often fall a prey to prowling Hawks. They probably raise two broods in the season; and may be considered, like the rest of their insect-devouring fraternity, as useful scavengers for the protection of the forest, their attacks, as might be reasonably expected, being always confined to decaying trees, which alone afford the prey for which they probe.

This species is about $10\frac{1}{2}$ inches in length, and about 17 in alar extent. The vent and femorals are dull-white, marked in their centres with heart and arrow shaped spots of blackish. Wings and back crossed with numerous bars of black and white; rump white, spotted with black. Tail of 10 feathers, the middle ones black, their interior vanes white, crossed with diagonal spots of black; the next four feathers on each side are black, the outer edges of the exterior ones barred with black and white, the extremities, except the outer feathers, are black, sometimes touched with yellowish white. Legs bluish-green. Bill bluish-black. Irides red.

YELLOW-BELLIED WOODPECKER.

†(*Picus varius*, WILSON. 1. p. 147. pl. 9. f. 2. [male]. BONAP. Am. Orn. 1. p. 75. pl. 8. f. 1. 2. [young]. Phil. Museum, No. 2004.)

SP. CHARACT. — Varied with black and white, the back spotted with pale yellow; front, crown, and anterior part of the throat crimson; breast and belly, light yellow. — *Female*, with the throat and hind-head whitish. — *Young*, without yellow nearly on the back, with a broad white band across the wings; the belly yellowish.

THIS species extends over the whole American continent, from the 53d degree to the tropic, where they are seen in Cayenne. They likewise inhabit the table land of Mexico; and are believed to frequent the borders of lake Baikal in Asia. In most part of this extensive region, the species dwell and breed. During the summer, it is seldom seen beyond the precincts of the forests in which it selects the most solitary recesses, leaving its favorite haunts only at the approach of winter, and seeking from necessity or caprice, at this roving season, the boundaries of the orchard. Its habits are but little different from those of the Hairy and Downy Woodpeckers with which they are often associated in their foraging excursions. The nest, as usual, is made in the body of some decayed orchard or forest tree, the circular entrance to which is left only just sufficient for the passage of the parties, the depth of the cavity is about 15 inches, and the eggs 4 or upwards, are likewise white. Their principal food is insects, for which they sometimes bore the trunks of the orchard trees.

This species is about 8½ inches long, with the alar extent (or stretch of the wings) 15 inches. Sides under the wings, dusky yellow, spotted longitudinally with black. The red of the throat surrounded with black extending over the breast. Tail black, the two central feathers white on their inner vanes and spotted with black. Legs and feet dusky blue, inclining to green. Bill, dusky horn-color, rather long and stout.

HAIRY WOODPECKER

(*Picus villosus*, L. WILSON, Am. Orn. i. p. 150. pl. 9. fig. 3. [male]. Phil. Museum, No. 1988.)

SP. CHARACT. — Varied with black and white; beneath white; the back clothed with long, slender, loose feathers; outer tail-feathers white, and spotless. — *Male*, with a red occipital band which in the *female* is black.

THIS common species is a resident in most parts of America from Hudson's Bay to Florida, being more numerous than the last, and more familiar; frequently approaching the cottage or the skirts of the town. It is likewise much attached to orchards, an active borer of their trunks, and an eager hunter after insects and larvæ in all kinds of decayed wood, even to stumps and the rails of the fences. In the month of May, like the last, accompanied by his mate he seeks out the seclusion of the woods, and taking possession of a hollow branch, or cutting out a cavity anew, he forms his nest in a deep and secure cavern; though sometimes a mere stake of the fence answers the purpose. The eggs, about 5, white as usual, are hatched in June. Their call consists in a shrill and rattling whistle, heard to a considerable distance. They also give out a single querulous note of recognition while perambulating the trunks for food.

The length of this species is about 9 inches, the alar extent 15. The crown black. Wings black, tipped and spotted with white. The 2 exterior feathers of the tail white, terminating in an umber tint. Legs and feet greyish-blue. Bill bluish-horn color, straight, about $1\frac{1}{4}$ inches long.

DOWNY WOODPECKER.

† (*Picus pubescens*, L. WILSON, Am. Orn. i. p. 153. pl. 9. fig 4. [male.]
Phil. Museum, No. 1986.)

SP. CHARACT. — Varied with black and white ; beneath white ; back with long, slender, loose feathers ; outer tail-feathers white, with *four black spots*. — *Male*, with a red occipital band, which in the female is black.

THIS species, the smallest of American Woodpeckers, agrees almost exactly with the preceding in its colors and markings. It is likewise resident throughout the same countries. About the middle of May also, the pair begin to look out a suitable deposit for their eggs and young. The entrance is in the form of a perfect circle, and only just left large enough for an individual to pass in and out. Both sexes labor for about a week at this task with indefatigable diligence, carrying on the burrow in some orchard tree, in two different directions, to the depth of 16 to 20 inches down ; and to prevent suspicion they carry out the chips, and strew them at a distance. The eggs are about 6, white, and deposited on the smooth bottom of the cavity. The male occasionally feeds his mate, while sitting ; and about the close of June the young are observed abroad, climbing up the tree with considerable address. Sometimes the crafty House Wren, interferes, and, driving the industrious tenants from their hole, usurps the possession. No species can exceed the present in industry and perseverance. While thus regularly probing the bark of the tree for insects, it continues so much engaged as to disregard the approaches of the observer, though immediately under the tree. These perforations, made by our *Sap-Suckers*, as the present and preceding species are sometimes called, are carried round the trunks and branches of the orchard trees in regular circles, so near to each other, that according to

Wilson, eight or ten of them may be covered by a dollar. The object of this curious piece of industry is not satisfactorily ascertained, but whether it be done to taste the sap of the tree, or to dislodge vermin, it is certain that the plant escapes uninjured, and thrives as well, or better than those which are imperforated.

The Downy Woodpecker is about $6\frac{3}{4}$ inches in length, and 12 in alar extent. The bill only about $\frac{3}{4}$ of an inch in length from the gape. The plumage very similar to that of the preceding species.

RED-COCKADED WOODPECKER.

† (*Picus querulus*, WILSON, Am. Orn. ii. p. 103. pl. 15. fig. 1. [male.] Phil. Museum, No. 2027.)

SP. CHARACT. — Varied with black and white ; the back barred with white ; below also white ; with the outer tail-feathers white, spotted with black. — *Male*, with a short vermilion-red line on each side of the head, wanting in the *female*.

THIS species, remarkable for the red stripe on the side of its head, was discovered by Wilson in the pine woods of North Carolina, from whence it probably exists to the coast of the Mexican Gulph. Its voice resembled the chirping of young birds, and had nothing of the sonorous cry of the other Woodpeckers.

This species is $7\frac{1}{2}$ inches long, and 13 in alar stretch. The back barred with about twelve white, curving lines, and as many of black. Tail-feathers spotted with black, except the 4 middle ones, which are wholly black. The vermilion line on the side of the head seldom occupies more than the edge of a single feather. In the *female* this mark is wanting. Iris hazel.

LEWIS'S WOODPECKER.

† (*Picus torquatus*, WILSON, Am. Orn. iii. p. 31. pl. 20. fig. 3. Phil. Museum, No. 2020.)

SP. CHARACT. — Black, glossed with green ; front, chin, and cheeks dark red ; collar round the neck, and breast, silvery-white ; the belly glossy vermilion.

OF this fine species nothing more is known, than that it commonly inhabits the remote interior of the Missouri Territory, from whence several skins were brought by Lewis and Clarke in their expedition across the Rocky Mountains.

The length of the specimens were $11\frac{1}{2}$ inches. The back, wings, and tail, black. Legs and feet dusky. Bill dark horn-color.

* * *Species with 3 toes.*

NORTHERN THREE-TOED WOODPECKER.

→ (*Picus tridactylus*, LINN. BONAP. Am. Orn. ii. pl. 14. fig. 2.)

SP. CHARACT. — Bill very broad and depressed; tarsus feathered above; sides of the head striped with black and white. — *Male* glossy black, beneath white; crown golden-yellow, in the *female* wholly black. — *Young*, black, lined with white, with the crown also similar.

THIS species, remarkable for its three-toed feet and yellow crown, is an inhabitant of the northern regions of both continents, being common in Siberia, Norway, and Switzerland, though rare in the more temperate parts. It is known to breed in Switzerland, dwelling among deep forests, in mountainous regions, burrowing its nest in the pine trees, and laying 4 or 5 white eggs, like the rest of the genus. Its voice and habits are indeed precisely similar to those of the Spotted Woodpeckers, to which it is closely allied. Its food consists of insects, their eggs, and larvæ, to which it sometimes adds, according to the season, seeds and berries. In the United States, this species is rarely seen beyond the northern boundaries of Maine or the borders of Lake Superior. Audubon, however, had the good fortune to meet with it in the pine forests of the Pokono Mountains in Pennsylvania. It is, however, sufficiently common in the dreary wilds around Hudson's Bay and Severn River.

It is remarkable, that a second species, so nearly allied to the present, as to have been confounded with it merely as a variety, is found to inhabit the woods of Guiana. In this, (the *Picus undulatus* of Vieillot,) the crown, however, is red instead of yellow; the tarsi are also naked, and the black of the back undulated with white.

The length of this species is about 10 inches, and 16 in alar stretch. Iris bluish-black. Above glossy black, with green and purple reflections. Throat, breast, and middle of the belly white; sides of the breast, and flanks, thickly waved with black and white, as well as the femorals and tarsal feathers. Primaries marked on both webs with square white spots. Tail, 4 middle feathers plain black, the rest white, except 2, which are tipped with black; the exterior feather, however, banded with black and white. Legs lead-color.

ORDER SIXTH.

SLENDER-BILLED BIRDS. (TENUIROSTRES. *Cuvier, Bonap.*)

IN these birds the BILL is long, or only moderately extended, partly arched, and elongated awl-shaped ; it is also entire and acute, or sometimes wedge-shaped at the extremity. The feet with 3 toes before, and 1 behind, the outer united at base to the middle one, hind toe generally long, the nails extended and curved.

All the birds of this order bear a relation to those of the 2d section of the preceding, or *climbing Zygodactyli*. Like them they generally cling to, and vertically ascend the trunks and branches of trees, or the façades of rocks, as well as hold themselves firmly upon them. Nearly all of them are insectivorous, and their food and means of procuring it are almost similar to that of the Woodpeckers. Their tongues are pointed, or divided at the extremity like a pencil, and more or less capable of extension. They build generally in hollow trees, or the clefts of rocks, and scarcely construct a nest. Their voice is quaint or unpleasant ; and though often incautious, their usual manners are shy and retiring.

NUTHATCHES. (SITTA. *Lin.*)

IN these the BILL is straight, moderate-sized, conic-awl-shaped, rounded, and sharp-edged towards the point ; lower mandible usually recurved from the middle. The NOSTRILS basal, orbicular, open,

half closed by a membrane, and partly hid in the advancing bristly feathers of the face. The TONGUE short, wide at the base, with a torn notch at the indurated tip. FEET robust; hind toe stout and long, with a strong, hooked, and sharp nail. Wings moderate; spurious feather short, the 2d, 3d, and 4th primaries longest. Tail rather short, of 12 feathers, even, or slightly rounded, with the shafts only of ordinary strength.

The sexes are similar, the young scarcely differing from the adult; and with the moult annual. These are generally hardy birds, dwelling in woods, and climbing the trunks and branches of trees as well down as up, practising the reverted postures of the Titmouse and the Certhias, being more agile and ambulatory than the Woodpeckers. They generally live on insects, but sometimes perforate nuts by repeated blows or *hatchings*, as well as the kernels of hard fruits, with the bill. They build in the hollows of trees, rearing a numerous brood; and inhabit cold and temperate countries.

WHITE-BREASTED AMERICAN NUTHATCH.

(*Sitta carolinensis*, BRISS. WILSON, i. p. 40. pl. 2. fig. 3. Phil. Museum, No. 2036.)

SP. CHARACT. — Lead-color; head and neck above black; beneath pure white; vent tinged with ferruginous; lateral tail-feathers black and white. — *Young* with the head plumbeous.

THIS species, so nearly allied to the European Nuthatch, resides permanently throughout North America, from Hudson's Bay to Mexico, appearing only more common and familiar at the approach of winter, in consequence of the failure of its food in its favorite sylvan retreats, which it now often forsakes for the open fields, orchards, or gardens, where, in pairs, or small and sometimes contending parties, they cautiously glean a transient means of subsistence, and wander from place to place as the supply diminishes. At the welcome return, however, of the month of April, with the revival and renewal of its insect fare, the Nuthatch becomes more domestic; and retiring into the forest with its mate, it pre-

pares for its progeny in some hollow tree, or even in a rail of the neighbouring fence. If the orifice to the nest, in the dead tree, be too large, the female of the European species contracts the entrance with plastic earth and mud, like a potter, and this barricade is speedily rebuilt if broken down. The eggs, about 5, are of a dull white, spotted with brown at the greater end. The male is now assiduously attentive to his sitting mate, supplying her regularly with food; on which occasion he affectionately calls her from the mouth of her dark and voluntary prison, where sometimes, in mere sociability, he attempts in his rude way to soothe her with his complaisant chatter. He is too affectionate to ramble from this favorite spot, where he not only accompanies his consort, but, sentinel-like, watches and informs her of every threatening danger. When the pair are feeding on the trunk of the same tree, or near to each other in the same wood, the faithful male is heard perpetually calling upon his companion at short intervals, as he circumambulates the trunk. His approach is announced usually at a distance by his nasal *quank quank*, frequently repeated, as in spiral circles round the trunk of some tree, he probes, searches, and shells off the bark in quest of his lurking prey of spiders, ants, insects, and their larvæ in general. So tight and secure is his hold, that he is known to roost indifferently with his head up or down from the tree; and when wounded, while any spark of life remains, his convulsive and instinctive grasp is still firmly and obstinately maintained. Sometimes with a sort of complaisant curiosity, one of the birds, when there is a pair, will silently descend nearly to the foot of the tree, where the spectator happens to stand, stopping, head downwards, and stretching out his neck, as it were to reconnoitre your appearance and motives; and after an interval of silence, wheel-

ing round, he again ascends to his usual station, trumpeting his notes as before. He seldom wholly quits the forest, but when baffled by the slippery sleet which denies him a foot-hold, he is sometimes driven to the necessity of approaching the barn-yard and stables, or the precincts of the dwelling, where occasionally mixing among the common fowls, entering the barn, or examining its beams and rafters, he seems to leave no means untried to secure a scanty subsistence.

Length $5\frac{1}{2}$ inches, alar extent 11. Bill black. Legs dusky flesh-color.

RED-BELLIED NUTHATCH.

(*Sitta canadensis*, L. WILSON, Am. Orn. i. p. 40. pl. 2. fig. 4.)

SP. CHARACTER.—Lead-color; head and neck above, and line through the eye, black; beneath rust-color; lateral tail-feathers black and white.—*Young* plumbeous on the head.

THE habits of this smaller species are almost similar to the preceding; they have, however, a predilection for pine forests, feeding much on the oily seeds of these evergreens. In these barren solitudes they are almost certain to be found in busy employment, associating in pairs, with the Chickadees and smaller Woodpeckers, the whole forming a hungry, active, and noisy group, skipping from tree to tree with petulant chatter, probing and rattling the dead or leafless branches, prying in every posture for their scanty food; and, like a horde of foraging Tartars, they then proceed through the forest, and leisurely overrun the whole of the continent to the very confines of the tropics, retiring north in the same manner with the advance of the spring.

The notes of this species of Nuthatch are sharper than those of the preceding. Its motions are also quicker. In winter, they migrate to the Southern States, where they

are seen in October, and return to the North in April. With its nest we are yet unacquainted.

Length $4\frac{1}{2}$ inches, alar extent 8. Legs and feet, dusky greenish-yellow.

BROWN-HEADED NUTHATCH.

(*Sitta pusilla*, LATH. WILSON, ii p. 105. pl. 15. fig. 2. Phil. Museum, No. 2040.)

SP. CHARACT. — Lead-color; head and neck above light brown; beneath dull white; lateral tail-feathers black, tipped with grey, and crossed with a line of white.

THIS small species is seldom seen to the north of the state of Virginia. In the Southern States it is rather common, and is also met with in the island of Jamaica. Like the last, which it resembles in manners, it is very fond of pine trees, and utters a similar note, but more shrill and chirping. Its food, besides the seeds of the pine, is usually the insects which infest the forest trees. Its nest is in hollow trees. In winter, families of this species, of 8 or 10 individuals, may be seen busily hunting in company, and keeping up a perpetual and monotonous screeching. It is less suspicious than most other sylvan birds, sometimes descending down the trunk of a tree, watching the motions of the by-stander, and if the intrusion happens to be near the nest, or while engaged in digging it out, the little harmless mechanic utters a sort of complaining note, and very unwillingly relinquishes his employment, which is instantly renewed on the removal of the observer.

Length $4\frac{1}{4}$ inches, alar extent 8. Legs dull blue. Iris hazel.

CREEPERS. (CERTHIA. *Lin.*)

In these birds the BILL is long, or of middling length, more or less arched, entire, 3-sided, compressed, slender, and acute. NOSTRILS

basal, naked, pierced in grooves, and half closed by a small membrane. TONGUE acute. FEET slender, inner toe free, and somewhat shorter than the outer; hind toe longer and more robust; the nails much curved, that of the hind toe largest. Wings rather short; spurious feather small; 3d and 4th primaries longest. Tail of 12 feathers, elastic, rigid, and acuminate.

The sexes and young nearly alike; with the moult annual. They live in pairs, or move in small families, and chiefly frequent woods, particularly those of pine, climbing both upwards and downwards on the trunks of trees, in performing which, like Woodpeckers, they are aided by the support of the rigid tail. They feed on insects only; and nest in hollow trees, laying from 3 to 9 eggs. The species are few, but widely spread.

BROWN CREEPER.

(*Certhia familiaris*, L. WILSON, i. p. 122. pl. 8. fig. 1. Phil. Museum, No. .)

SP. CHARACT.—Dark grey, varied with white, brown, and dusky; beneath white; rump and tail rusty-brown.

THIS industrious forager for insects, chiefly dwelling in the seclusion of the forest, is but seldom seen in the summer; but on the approach of winter, with other hungry wanderers of similar habits, such as the small Woodpeckers and Nuthatches, he makes his appearance on the wooded skirts of the village, particularly among the pine trees, and occasionally becomes familiar enough to pay a passing visit to the orchard. In this country, however, the species is neither common nor familiar, nor are they more abundant in the Northern than the Middle States. If this be, indeed, the same as the common European species, its habits are considerably different, nor is it quoted as common to America by the celebrated Temminck in his Manual of European Ornithology.

The bill of the Creeper not being of sufficient strength to probe the wood, it rests contented, with examining the crevices of the bark for insects and their eggs, proceeding

leisurely upwards or downwards, in straight or spiral lines towards the top of the tree, dodging dexterously to the opposite side from the observer, and only resuming his occupation when assured of solitude and safety. Though they live chiefly on insects, they also, according to Wilson, collect the seeds of the pine for food, and are particularly fond of the vermin which prey on those kinds of trees. In the thick forests which they inhabit, in the Northern and Western States, about the middle of April, they commence their nest in the hollow trunk or branch of a tree, which has been exposed to decay by injury or accident. Here, in the accidental cavities or deserted holes of the Squirrel or Woodpecker, the Creeper deposits her eggs, to the number of 7 or more, of a dull cinereous, marked with small dots of reddish-yellow, and streaks of dark brown. (According to Temminck, the eggs of the European bird are pure white, scattered with numerous pale and darker spots of ferruginous brown.) The young creep about with great caution previous to taking to their wings.

Length 5 inches, alar extent 7. Tail, as long as the body, of a pale drab, with the inner webs dusky, the extremity of each sharp, rigid, and attenuated to a point, in the manner of the Woodpeckers. Eyes hazel. Legs and feet dirty clay-color.

FAMILY. — ANTHOMYZI. *Vicill. Bonap.*

The bill long or moderate, slender, entire, acute, or tubular at the point; the tongue long, slender, and extensible. Feet short, or moderate, and slender. Tail of 10 or 12 feathers.

The moult semi-annual; with the plumage usually brilliant. They feed principally on the honeyed sweets of flowers, which they extract with their long and extensible tongues; some also add small insects to their fare. The nest is often constructed with much art, and they raise several broods in the season. The voice is scarcely audible.

HUMMING-BIRDS. (TROCHILUS. *Lin.*)

The BILL long, straight or curved, very slender, the base depressed, and as wide as the forehead, the point sharp; the edges of the upper mandible covering the lower so as to render the bill tubular; MOUTH very small. NOSTRILS basal, linear, covered by a turgid membrane. TONGUE very long and extensible, entire at base, divided from the middle upwards. Feet very short; tarsus short and slender, more or less feathered; fore toes almost wholly divided; nails short, much curved and retractile, compressed and acute, hind one often shorter than the others. Wings long and acute, 1st primary longest and curved, the others successively shortening. Tail mostly of 10 feathers.

These birds differ considerably in appearance according to age and sex; the colors are brilliant and metallic, and the high tinted feathers of a rigid texture. They associate only in pairs; the young often brought together accidentally in small companies, but live separate from the old. The flight is extremely rapid; with the wings constantly moving with a humming sound, so as to produce a balancing suspension in the air while feeding on the nectar of flowers; each of the primaries even, provided with a separate motion. They scarcely walk, resting and roosting upon the larger branches of trees. The nest attached to a branch or a leaf, (rarely pensile.*) The eggs are 2, and white. — They are peculiar to America, and almost exclusively tropical.

Subgenus — MELLISUGA. *Briss. Bonap.*

With the bill straight.

* A species with a widely decussated tail, described by Waterton, as inhabiting Demerara, is said to make a pendulous nest, like paper, near water-courses; it is also nearly nocturnal, feeding on insects chiefly by the morning and evening twilight.



RUBY-THROATED HUMMING-BIRD.

(*Trochilus colubris*, L. WILSON, ii. p. 26. pl. 10. fig. 3 and 4. AUDUBON, pl. 47, [a numerous group of old and young.] Orn. Biog. i. p. 243. Phil. Museum, No. 2520.)

SP. CHARACT. — Golden-green ; tail forked, dusky ; 3 outer tail-feathers rusty-white at tip. — *Male* with a changeable ruby-colored throat. — In the *female* and *young*, the throat is nearly white, strongly inclining to yellow in the young male.

THIS wonderfully diminutive and brilliant bird is the only one of an American genus, of more than 100 species, which ventures beyond the limit of tropical climates. Its approaches towards the north are regulated by the advances of the season. Fed on the honeyed sweets of flowers, it is an exclusive attendant on the varied bounties of Flora. By the 10th to the 20th of March, it is already seen in the mild forests of Louisiana, and the warmer maritime districts of Georgia, where the embowering and fra-

grant *Gelsemium* (Carolina Jessamine), the twin-leaved *Bignonia*,* and the white-robed *Mylocarium*,† with a host of daily expanding flowers, invite our little sylvan guest to the retreats he had reluctantly forsaken. Desultory in his movements, roving only through the region of blooming sweets, his visits to the Northern States are delayed to the month of May. Still later, as if determined that no flower shall "blush unseen, or waste its sweetness on the desert air," our little sylph, on wings as rapid as the wind, at once launches without hesitation into the flowery wilderness which borders on the arctic circle.

The first cares of the little busy pair are now bestowed on their expected progeny. This instinct alone propelled them from their hybernal retreat within the tropics; strangers amidst their numerous and brilliant tribe, they only seek a transient asylum in the milder regions of their race. With the earliest dawn of the northern spring, in pairs, as it were with the celerity of thought, they dart, at intervals, through the dividing space, till they again arrive in the genial and more happy regions of their birth. The enraptured male is now assiduous in attention to his mate; forgetful of selfish wants, he feeds his companion with nectared sweets; and jealous of danger and interruption to the sole companion of his delights, he often almost seeks a quarrel with the giant birds which surround him; he attacks even the King-Bird, and drives the gliding Martin to the retreat of his box. The puny nest is now prepared in the long accustomed orchard or neighbouring forest. It is concealed by an artful imitation of the mossy branch to which it is firmly attached and incorporated. Bluish-grey lichens, agglutinated by saliva, and matched with surrounding

* *Bignonia capreolata*.

† Called the Buck-wheat tree.

objects, instinctively form the deceiving external coat; portions of the cunning architecture, for further security, are even tied down to the supporting station. Within are laid copious quantities of the pappus or other down of plants; the inner layer of this exquisite bed is finished with the short wool of the budding *Platanus*, the mullein, or the soft clothing of unfolding fern-stalks. The eggs, as in the whole genus, are white, and only 2, so nearly oblong as to present no difference of ends. Incubation, so tedious to the volatile pair, is completed in the short space of 10 days, and in the warmer States, a second brood is raised. On approaching the nest, they dart around the intruder, within a few inches of his face; and the female, if the young are out, often resumes her seat, though no more than three or four feet from the observer. In a single week the young are on the wing, and in this situation still continue to be fed with their nursing sweets by the assiduous parents. Creatures of such delicacy and uncommon circumstances, the wondrous sports of nature, every thing appears provided for the security of their existence. The brood are introduced to life in the warmest season of the year; variation of temperature beyond a certain medium, would prove destructive to these exquisite forms. The ardent heats of America have alone afforded them support; no region, so cool as the United States, produces a set of feathered beings so delicate and tender; and, consequently, any sudden extremes, by producing chill and famine, are fatal to our Humming-Birds. In the present, remarkably wet summer (1831), very few of the young have been raised in New England. In other seasons they comparatively swarm, and the numerous and almost gregarious young are then seen, till the close of September, eagerly engaged in sipping the nectar from various showy and tubular

flowers, particularly those of the trumpet *Bignonia*, and wild balsam, with many other conspicuous productions of the fields and gardens. Sometimes, they may also be seen collecting diminutive insects, or juices from the tender shoots of the pine tree. While thus engaged in strife and employment, the scene is peculiarly amusing. Approaching a flower, and vibrating on the wing before it, with the rapidity of lightening, the long, cleft, and tubular tongue is exerted to pump out the sweets, while the buzzing or humming of the wings reminds us of the approach of some larger *Sphinx* or droning bee. No other sound or song is uttered, except occasionally a slender chirp while flitting from a flower, until some rival bird too nearly approaches the same plant; a quick, faint, and petulant squeak is then uttered, as the little glowing antagonists glide up in swift and angry gyrations into the air. The action, at the same time is so sudden, and the flight so rapid, that the whole are only traced for an instant, like a grey line in the air. Sometimes without any apparent provocation, the little pugnacious vixen will, for mere amusement, pursue larger birds, such as the Yellow-Bird and Sparrows. To man they show but little either of fear or aversion, quietly feeding on their favorite flowers often, when so nearly approached as to be caught. They likewise frequently enter the green-houses and windows of dwellings where flowers are kept in sight. After feeding, for a time, the individual settles on some small and often naked bough or slender twig, and dresses its feathers with great composure, particularly preening and clearing the plumes of the wing.

The old and young are soon reconciled to confinement. In an hour after the loss of liberty, the little cheerful captive will often come and suck diluted honey, or sugar and water, from the flowers held out to it; and in a few

hours more it becomes tame enough to sip its favorite beverage from a saucer, in the interval flying backwards and forwards in the room for mere exercise, and then resting on some neighbouring elevated object. In dark, or rainy weather, they seem to pass the time chiefly dozing on the perch. They are also soon so familiar as to come to the hand that feeds them. In cold nights, or at the approach of frost, the pulsation of this little dweller in the sunbeam, becomes nearly as low as in the torpid state of the dormouse ; but on applying warmth, the almost stagnant circulation revives, and slowly increases to the usual state.

The Humming-Bird is only $3\frac{1}{2}$ inches in length, and $4\frac{1}{4}$ in alar extent. The bill, legs, feet, and eyes black. The feathers of the breast in the male, according to the light in which they are viewed, vary from a deep brownish black, to a fiery crimson or glowing orange. — In the *young birds* the bill is broader and shorter, and traces of the rigid metallic glossed feathers begin to appear on the throat, towards the close of autumn. At first the chin for a little space is palish-yellow.

ORDER SEVENTH.

HALCYONS. (ALCYONES. *Temm.*)

THE bill usually long, sharp-pointed, almost quadrangular, and slightly curved or straight. Feet very short ; the tarsus reticulated ; the middle toe united with the outer, commonly to the second joint, and with the inner toe to the first articulation. Female and young usually almost similar to the adult ; the moult annual.

These birds reside near waters ; fly swiftly ; perch on trees or rocks, but seldom descend to the ground, the feet being too short either for walking or leaping. They subsist on insects, which they take while on the wing ; or on fishes, seizing them as they approach the surface of the water. They breed in holes burrowed in the friable banks of streams ; and the eggs are numerous. The voice is harsh and monotonous ; and they are at all times shy, and are tamed with difficulty.

KING-FISHERS. (ALCEDO. *Lin.*)

In these the BILL is long, robust, straight and quadrangular, compressed and acute, rarely somewhat curved at the point. NOSTRILS basal, lateral, oblique, almost wholly closed by a naked membrane. TONGUE very short and fleshy. Feet short and robust, tarsus shorter than the middle toe, which is nearly equal to the outer ; inner toe rarely wanting, hind toe wide at the base ; nail of the hind toe smallest. Wings rather short, 1st and 2d primaries a little shorter than the third, which is longest.

These are shy, solitary, and abstemious birds, feeding on insects, and diminutive aquatic animals, but principally on small fish, for which they assiduously watch while perched on some projecting stake or bough impending over the water; these they dexterously catch and swallow whole, at length casting up the scales, bones, and indigestible parts in the form of pellets. They fly for short distances with considerable celerity, skimming directly over the surface of the land or water. — Species are spread over the whole globe, but they abound most in warm climates. In the United States, as in Europe, there is but a solitary peculiar race in each country.



Bowen.

BELTED KING-FISHER.

† (*Alcedo Alcyon*, L. WILSON, iii. p. 59. pl. 23. fig. 1. AUD. pl. 77.
Orn. Biog. i. p. 394. Phil. Museum, No. 2145.)

SP. CHARACT. — Crested; bluish slate-color; breast with a bluish band; a spot on either side of the eyes, with a large collar round the neck, as well as the vent, white. — *Female*, with the sides, and an additional belt on the breast, ferruginous.

THIS wild and grotesque looking feathered angler is a well known inhabitant of the borders of fresh waters from Hudson's Bay to the tropics. His delight is to dwell amidst the most sequestered scenes of uncultivated nature, by the borders of running rivulets, the roar of the water-fall, or amidst the mountain streamlets which abound with the small fish and insects constituting his accustomed fare. Mill-dams, and the shelving and friable banks of water-courses, suited for the sylvan retreat of his mate and brood, have also peculiar and necessary attractions for our retiring King-Fisher. By the broken, bushy, or rocky banks of his solitary and aquatic retreat, he may often be seen perched on some dead and projecting branch, scrutinizing the waters for his expected prey; if unsuccessful, he quickly courses the meanders of the streams or borders of ponds, just above their surface, and occasionally hovers for an instant, with rapidly moving wings, over the spot where he perceives his gliding quarry; in the next instant, descending with a quick spiral sweep, he seizes a fish from the timid fry, with which he rises to his post, and swallows it in an instant. When startled from the perch, on which he spends many vacant hours digesting his prey, he utters commonly a loud, harsh, and grating cry, very similar to the interrupted creakings of a watchman's rattle, and almost, as it were, the vocal counterpart to the watery tumult amidst which he usually resides.

The nest, a work of much labor, is now burrowed in some dry and sandy, or more tenacious bank of earth, situated beyond the reach of inundation. At this task both the parties join with bill and claws, until they have horizontally perforated the bank to the depth of 5 or 6 feet. With necessary precaution, the entrance is only left sufficient for the access of a single bird. The ex-

tremity, however, is rounded like an oven, so as to allow the individuals and their brood a sufficiency of room. This important labor is indeed prospective, as the same hole is employed for a nest and roost for many succeeding years. Here, on a few twigs, grass, and feathers, the eggs, about 6, and white, are deposited. Incubation, in which both parents engage, continues for 16 days; and they exhibit great solicitude for the safety of their brood. The mother, simulating lameness, sometimes drops on the water, fluttering as if wounded and unable to rise from the stream. The male also perched on the nearest bough, or edge of the projecting bank, jerks his tail, elevates his crest, and passing to and fro before the intruder, raises his angry and vehement rattle of complaint.* They are very tenacious of their cell, and seldom forsake it, however molested. But at the commencement of winter, the frost obliges our humble Fisher to seek more open streams, and even the vicinity of the sea; but he is seen to return to Pennsylvania by the commencement of April.

The length of this species is about 12 inches; alar extent 20. Bill brownish-black, light greenish-blue at the base. Iris hazel. Feet greyish-blue; the claws black. Quills brownish-black, barred with white at the base; tail-feathers the same, but more barred with white.— The blue of the female duller.

* AUDUBON, Orn. Biog. i. p. 396.

ORDER EIGHTH.

SWALLOW TRIBE. (CHELIDONES. *Vieill.*)

WITH the bill very short, much depressed, and very wide at the base, the upper mandible curved at the point. Feet short and slender, 3 toes before, wholly divided, or united at the base by a short membrane, the hind toe often reversible; the nails hooked. Wings very long and acute.

The sexes and young nearly similar; with the moult annual. These feed exclusively on insects, which they swallow flying; they consequently migrate to tropical countries in winter. The flight is very rapid and long continued; (the diurnal section scarcely walk.) The vision very perfect; and, according to their habits, diurnal or nocturnal. The voice in the proper Swallows is rather feeble and twittering; in the nocturnal family quaint, singular, or monotonous.

§ I. — DIURNAL FAMILY.

With the eyes and ears of moderate size. The plumage close and compact; and with the middle toe-nail like the rest.

SWALLOWS. (HIRUNDO. *Linn.*)

In these birds the BILL is short, triangular, depressed, wide at its base, and cleft nearly to the eyes; the upper mandible notched

and a little hooked at the point. NOSTRILS basal, oblong, behind partly closed by a membrane, and covered by the advancing feathers of the frontlet. *Tongue* short, bifid. *Feet* short, and slender; middle toe longer than the subequal lateral ones, united with the outer to the first articulation, middle toe-nail largest. *First primary* longest. *Tail* of 12 feathers, and generally forked.

These birds are remarkable for their sociability, living generally in families, constructing their nests together, and often rendering mutual assistance in its formation; they also assemble and migrate in large flocks. Some build in hollow trees, barns, out-buildings, chimneys, and even on the ground, or the larger branches of trees; the external part of the nest is fortified with hardening materials, the interior lined with soft substances. Constantly paired, they rear several broods in the season, and unite in the labor of rearing the young. They frequent watery places in pursuit of winged insects, which they take with agility, swimming as it were in the air; they likewise skim over the surface of waters, and drink and bathe even without alighting, the air being almost their peculiar element. In fair weather they delight to ascend into the elevated regions of the atmosphere; but previous to rain, which they thus prognosticate, they lower their flight, and at length sail near the surface of the earth. They inhabit every region, and moult once a year, in the depth of our winter, and while in their tropical asylum,

PURPLE MARTIN.

(*Hirundo purpurea*, L. WILSON, v. p. 58. pl. 39. fig. 1. and 2. AUD. pl. 22. Orn. i. p. 115. Phil. Museum, No. 2645, 2646.)

SP. CHARACT. — Dark bluish-purple, and glossy; wings and forked tail brownish-black. — *Female* and *young* bluish-brown; belly whitish.

ACCORDING to the progress of the season in the very different climates of the United States, is measured the arrival of this welcome messenger of spring. Around the city of New Orleans, for example, the Purple Martin is seen from the 1st to the 9th of February. At the Falls of the Ohio they are not seen before the middle of March, and do not arrive in the vicinity of Philadelphia until the first week in April; on the 25th of that month or later,

they visit the vicinity of Boston, and penetrate even to the cold regions of Hudson's Bay, where they arrive in May, and retire in August; about the 20th of the same month they also leave the state of Pennsylvania. In their haste to return to their natal climes, they sometimes expose themselves to fatal accidents from changeable and unfavorable weather. In the maritime parts of Massachusetts, and probably throughout the state, a few years ago, after a rainy midsummer, many were found dead in their boxes, and they have since been far less numerous than formerly.

This beautiful species, like many others of the family, seeks out the dwellings of man, associating himself equally with the master and the slave, the colonist and the aboriginal. To him it is indifferent, whether his mansion be carved and painted, or humbled into the hospitable shell of the calabash or gourd. Secure of an asylum for his mate and young, while under the protection of man, he twitters forth his gratitude, and is every where welcomed to a home. So eager is he to claim this kind of protection, that sometimes he ventures hostilities with the Blue-Birds and domestic Pigeons, whom he often forces to abandon their hereditary claims. Satisfied with their reception and success, like so many contented and faithful domestics, they return year after year to the same station. The services of the Martin in driving away Hawks and Crows from the premises he claims, are also important inducements for favor; he has even the courage to attack the redoubtable King-Bird, when his visits are too familiar near the nest.

At the approaching dawn, the merry Martin begins his lively twitter, which, continuing for half a minute, subsides until the twilight is fairly broken. To this prelude succeeds an animated and incessant musical chat-

tering, sufficient, near the dwelling, to awaken the soundest sleeper. His early vigils are scarcely exceeded by the domestic cock; the industrious farmer hears the pleasing call to labor, and associates with the favorite bird the idea of an economical, cheerful, and useful guest.

In the Middle States, from the 15th to the 20th of April, the Martins begin to prepare their nest, which is usually made of small green or dry leaves, straws, hay, and feathers, laid in considerable quantities. The eggs, pure white, are from 4 to 6, and without spots. They rear two broods in the season. Several pairs also dwell harmoniously in the same box. The male, very attentive to his sitting mate, also takes part in the task of incubation; and his notes at this time have apparently a peculiar and expressive tenderness.

The food of the Martin is usually the larger winged insects; as wasps, bees, large beetles, such as the common *Cetonias* or goldsmiths, which are swallowed whole. His flight possesses all the swiftness, ease, and grace of the tribe. Like the Swift, he glides along, as it were, without exertion. Sometimes he is seen passing through the crowded streets, eluding the passengers with the rapidity of thought; at others he sails among the clouds at a dizzy height, like something almost ethereal.

This species is about 8 inches in length, and 16 in alar extent. Tail considerably forked.



BARN SWALLOW.

(*Hirundo rufa*, GMEL. *H. americana*, WILSON, v. p. 34. pl. 38.
fig. 1. and 2. Phil. Museum, No. 7609.)

SP. CHARACT. — Above, and band on the breast, steel-blue ; front and beneath chesnut-brown, paler on the belly ; tail forked, with a white spot on the lateral feathers, the outer ones narrow and long.

THE Barn Swallow arrives in Florida and the maritime parts of Georgia about the middle of March, but is not seen in the Middle States before the last of that month or the beginning of April. Their northern migration extends to the sources of the Mississippi, where they have been seen by Mr. Say, at Pembino, in the latitude of 49°. They retire from Massachusetts about the 18th of September, and are observed, in the same month and in October, passing over the peninsula of Florida on their way to tropical America, where they probably pass the winter. I have seen a straggling pair in this vicinity even on the 15th of October. In the months of

January and February the common Chimney Swallow of Europe has been observed to moult, by Mr. Pearson of London, and Mr. Natterer of Vienna; with the latter they survived in cages, to which they are easily reconciled, for 8 or 9 years, and showed no propensity to torpidity. The fleetness with which they move, and the peculiarity of their insect fare, are circumstances which would impel a prompt transition to more favorable climates. Accidental fits of torpidity, like those which occasionally and transiently take place with the Humming-Bird, have undoubtedly happened to Swallows, without proving any thing against the general migrating instinct of the species.

Early in May they begin to build, against a beam or rafter, usually in the barn. The external and rounding shell is made of pellets of mud, tempered with fine hay, and rendered more adhesive by the glutinous saliva of the bird; within is laid a bed of fine hay, and the lining is made of loosely arranged feathers. The eggs are 5, white, spotted over with reddish-brown. They have usually two broods in the season, and the last leave the nest about the first week in August. Twenty or thirty nests may sometimes be seen in the same barn, and two or three in a cluster, where each pursues his busy avocation in the most perfect harmony. When the young are fledged, the parents, by their actions and twitterings, entice them out of the nest, to exercise their wings within the barn, where they sit in rows amid the timbers of the roof, or huddle closely together in cool or rainy weather for mutual warmth. At length they venture out with their parents, and, incapable of constant exercise, may now be seen on trees, bushes, or fence-rails, near some pond or creek, convenient to their food; and their diet is disgorged from the stomachs or crops of their

attentive parents. When able to provide for themselves, they are still often fed on the wing without either party alighting; so aërial and light are all their motions, that the atmosphere alone seems to be their favorite element. In the latter end of summer, parties of these social birds may be often seen by the sides of dusty roads, in which they seem pleased to bask.

About the middle of August they leave the barns, and begin to prepare for their departure, assembling in great numbers on the roofs, still twittering with great cheerfulness. Their song is very sprightly, and sometimes a good while continued. Some of these sounds seem like 't'le 't'le 't'letalit, uttered with rapidity and great animation. Awhile before their departure, they are observed skimming along the rivers and ponds after insects in great numbers, till the approach of sunset, when they assemble to roost in the reeds.

The length of the species is about 7 inches, alar stretch 13. Exterior feathers of the tail an inch and a half longer than the next. Iris dark hazel. Legs dark purple.—*Female* with the belly and vent rufous-white.

FULVOUS OR CLIFF SWALLOW.

(*Hirundo fulva*, VIEILL. BONAP. Am. Orn. i. p. 63. pl. 2. fig. 1. AUD. pl. 68. Orn. i. p. 353. Phil. Museum, No. 7624.)

SP. CHARACT.—Blue-black: beneath brownish-white; throat and rump ferruginous; front with a paler semi-lunar band; tail even.

THE Cliff Swallow has but recently come to the notice of naturalists. Its summer residence in the temperate parts of America is singularly scattered. They appear to have long occupied the regions near the Rocky Mountains, the cliffs of the Missouri, and probably other large western rivers. In 1815, they appeared for the first time at Henderson on the banks of the Ohio, and at New Port in Kentucky. In 1817, they made their ap-

pearance at Whitehall, near Lake Champlain, in the western part of the state of New York. In these places their increase seems to have kept pace with the time since their arrival, augmenting their nests from a single cluster to several hundreds in the course of 4 or 5 years. Vieillot observed one at sea off Nova Scotia, and they have, in fact, long been commonly known in that province. In 1818, as I learn from J. W. Boott, Esq., they began to build at Crawford's, near the base of the White Mountains of New Hampshire. In the summer of 1830 a few nests were seen by General Dearborn at Winthrop in Maine; he had also heard of one at Gardiner in the same state. The hibernal retreat of this species would appear to be in the West Indies, as they were seen in Porto Rico by Vieillot, and one was also observed in St. Domingo by the same author.

In the Western States they arrive from the south early in April, and almost immediately begin to construct their nests. They commence their labor at the dawn and continue their operations until near mid-day. They are made of pellets of sandy mud, disposed in layers until the fabric with its entrance assumes the form of a projecting retort, agglutinated to cliffs or the walls of buildings, as convenience may offer. From the nature of the friable materials employed, the whole is frail and crumbling in the possession of any but the airy owners. The internal lining is of straw and dried grass, negligently disposed for the reception of the eggs, which are usually 4, and white, spotted with dusky-brown. They raise but a single brood, who with their parents, after several attempts at mustering, finally disappear in August, as suddenly as they came.

Like the rest of their congeners, they are almost perpetually on the wing in quest of flies and other small in-

sects, which constitute their ordinary food. Their note does not appear to resemble a twitter, and according to Audubon it may be imitated by rubbing a moistened cork round in the neck of a bottle. In Kentucky, until the commencement of incubation, the whole party resorted to roost in the hollow limbs of the button-wood trees (*Platanus occidentalis*). However curious, it is certain, that these birds have but recently discovered the advantage of associating round the habitations of men.

The Cliff Swallow is about $5\frac{1}{2}$ inches long, the alar extent 12. Iris hazel. The semi-lunar frontal band pale rufous white. Tail-coverts pale yellowish-red. Wings and tail brownish-black. — *Female* similar.

WHITE-BELLIED SWALLOW.

(*Hirundo bicolor*, VIEILL. *H. viridis*, WILSON, v. p. 44. pl. 33. fig. 3. Phil. Museum, No. 7707.)

SP. CHARACT. — Dark greenish-blue, beneath white; tail forked; the tarsi naked.

THIS species, less common than the Barn Swallow, and nearly allied to the Common Martin, arrives in Pennsylvania and New England about the middle of April, and extends its migrations over the continent nearly to the arctic circle, having been seen by Dr. Richardson in the latitude of 53° ; they also breed around Hudson's Bay, and throughout the Northern and Middle States. On their arrival, like many other species, they seek out the society of man, and frequently take possession of the mansion of the Martin. When these advantages are unattainable, they will content themselves with the eaves of some deserted dwelling, a hollow tree, their ancient residence, or even an horizontal branch, when large and convenient. The nest is made without mud, of fine dry grass loosely put together, and copiously lined with feath-

ers. The eggs are 4 or 5, and pure white ; and they commonly raise two broods in the season.

The voice of this species is rather low and guttural ; they are likewise more quarrelsome and less sociable in the breeding season, than the Barn Swallow. In the spring their angry contentions and rapid chatter are heard in the air for a quarter of an hour at a time. Their food is similar to that of the species above mentioned, and they make a snapping sound with the bill in the act of seizing their prey. They proceed to the South in September, and according to the observations of Audubon, pass nearly, if not quite the whole winter, in the cypress swamps near to New Orleans, and probably in the Mexican vicinity. He observed them about the middle of December, and also near to the close of January. " During the whole winter many retired to the holes around houses, but the greater number resorted to the lakes, and spent the night among the branches of the wax myrtle," whose berries, at this season, afford them a support on which they fatten, and are then considered as excellent food. About sunset they usually began to flock together, at a peculiar call, and were then seen almost in clouds moving towards the neighbouring lagoons, or the estuaries of the Mississippi. Before alighting, they perform their aerial evolutions to reconnoitre the place of roosting ; soon after which they rapidly descend, as it were in a spiral vortex, almost like the fall of a water-spout, and when within a few feet of the wax myrtles, they disperse, and settle at leisure ; but their twittering and the motions of their wings are heard throughout the night. At dawn, they rise, at first flying low over the waters, which they almost touch, and then, rising, gradually separate in quest of food. During their low flight, numbers of them are

often killed by canoe-men with the mere aid of their paddles.*

The length of this species is about $5\frac{3}{4}$ inches, alar extent 12. Above light glossy greenish-blue. Wings and tail brownish-black. The closed wings extend about a quarter of an inch beyond the tail. — The *female* is less glossy green.

BANK SWALLOW, OR SAND MARTIN.

(*Hirundo riparia*, L. WILSON, v. p. 46. pl. 38. fig. 4. Phil. Museum, No. 7637.)

SP. CHARACT. — Above, and band on the breast cinereous brown; beneath white; tail forked; the tarsi naked, with a few tufts of downy feathers behind. — The *young*, at first, have the feathers slightly bordered with rufous, this edging more conspicuous on the wing-coverts and tertials.

THIS plain looking and smaller species, though equally gregarious with other kinds, does not court the protection or society of man; at least their habitations are remote from his. They commonly take possession for this purpose of the sandy bank or bluff of a river, quarry, or gravel pit, 2 or 3 feet below the upper surface of the bank. In such places, in the month of April, they may be observed burrowing horizontally with their awl-like bills, when, at length, having obtained a foot-hold in the cliff, they also use their feet, and continue this labor to the depth of 2 or 3 feet. Several of these holes may be often seen within a few inches of each other. The nest itself, at the extremity of this cavern, is loosely made of a little dry grass, and a few downy feathers. The eggs are about 5, and pure white. They have generally two broods in the season; and on the egress of the young, in the latter end of May, the piratical Crows often await their opportunity to destroy them as they issue from

* AUDUBON. Orn. Biog. i. p. 356.

the nest. In rocky countries they often take possession of the clefts on the banks of rivers for their dwelling, and sometimes they content themselves with the holes of trees.

Their voice is only a low mutter ; and, while busily passing backwards and forwards in the air around their numerous burrows, they seem at a distance almost similar to hiving bees. As they arrive earlier than other species, the cold and unsettled weather often drives them for refuge into their holes, where they cluster together for warmth, and have thus been found almost reduced to a state of torpidity. Dwelling thus shut up, they are often troubled with swarms of infesting insects, resembling fleas, which assemble in great numbers around their holes. They begin to depart to the South from the close of September to the middle of October. Although they avoid dwelling near houses, they do not fly from settled vicinities ; and parties of 6 or more, several miles from their nests, have been seen skimming through the streets of adjacent villages in the province of Normandy.

In the United States, they are known to breed from Georgia to Maine, and were seen by Lewis and Clarke near the coasts of the Pacific. They are also equally common to Europe and South Africa, and Aristotle relates that they were numerous in the narrow pass of the mountains in Greece.

The Bank Swallow is 5 inches long, and 10 in alar stretch. Tail forked, the outer feather slightly edged with whitish. Wings and tail darker than the body.

SWIFTS. (*CYPSELUS Illig.*)

In these birds the BILL is extremely short, triangular, cleft to the eyes, depressed, the upper mandible slightly notched and curved at the point. NOSTRILS lateral, contiguous, large, partly covered by a membrane, leaving a small tubular aperture. TONGUE short, wide,

and bifid at tip. *Feet* very short, toes divided, hind toe shortest, versatile, generally directed forward; nails retractile, channeled beneath. *Wings* extremely long, 1st primary a little shorter than the 2d, which is longest. *Tail* of 10 feathers.

The sexes and young nearly alike in plumage; with the moult annual. The Swifts live still more in the air than the Swallows, generally flying at great elevations; they flap their wings only at intervals, and appear as if sailing in the atmosphere in wide circles. They are rarely seen at rest, and then upon elevated places, but never on the ground. They make their nests in the clefts of rocks, in ruins, and in chimneys, some choosing a plane surface on which to rest the fabric; in others the materials are perpendicularly agglutinated. The foreign species employ soft substances for the nest, often pilfered from the Sparrow. In ours, twigs only are used; in either, the materials are attached together by a viscous substance secreted from the stomach of the bird, which acquires hardness and consistence in drying. They pass the greater part of the day in their roosting-places. The eggs, 2 to 4, are spotless, and white. Species are spread over the whole globe.

CHIMNEY SWIFT or SWALLOW.

(*Cypselus pelagius*, TEMM. *Hirundo pelasgia*, WILSON, v. p. 48. pl. 39. fig. 1. Phil. Museum, No. 7663.)

SP. CHARACT. — Sooty-brown; chin and line over the eye dull whitish; wings extending far beyond the tail; tail even, with the feathers mucronate.

THIS singular bird, after passing the winter in tropical America, arrives in the Middle and Northern States late in April or early in May. Their migrations extend, at least, to the sources of the Mississippi, where they were observed by Mr. Say. More social than the foreign species, which frequent rocks and ruins, our Swift takes advantage of unoccupied and lofty chimneys, their original roost and nesting situation being tall gigantic hollow trees, such as the elm and button-wood (*Platanus*). The nest is formed of slender twigs, neatly interlaced, somewhat like a basket, and connected sufficiently together

by a copious quantity of adhesive gum or mucilage secreted by the stomach of the curious architect. This rude cradle of the young is small and shallow, and attached, at the sides, to the wall of some chimney, or the inner surface of a hollow tree : it is wholly destitute of lining. The eggs are usually 4, and white. They have commonly two broods in the season. So assiduous are the parents, that they feed the young through the greater part of the night ; their habits, however, are nearly nocturnal, as they fly abroad most at and before sunrise, and in the twilight of evening. The noise which they make, while passing up and down the chimney, resembles almost the rumbling of distant thunder. When the nests get loosened by rains, so as to fall down, the young, though blind, find means to escape, by creeping up and clinging to the sides of the chimney walls ; in this situation they continue to be fed for a week or more. Soon tired of their hard cradle, they generally leave it long before they are capable of flying.

On their first arrival, and for a considerable time after, the males, particularly, associate to roost in a general resort. This situation, in the remote and unsettled parts of the country, is usually a large, hollow tree, open at top. These well known *Swallow-trees* are ignorantly supposed to be the winter quarters of the species, where, in heaps, they doze away the cold season in a state of torpidity ; but no proof of the fact is ever adduced. The length of time such trees have been resorted to by particular flocks may be conceived perhaps, by the account of a hollow tree of this kind described by the Rev. Dr. Harris in his Journal. The *Platanus* alluded to, grew in the upper part of Waterford in Ohio, two miles from the Muskingum, and its hollow trunk, now fallen, of the diameter of $5\frac{1}{2}$ feet, and for nearly 15 feet upwards, con-

tained an entire mass of decayed Swallow feathers, mixed with brownish dust and the exuviae of insects. In inland towns they have been known to make their general roost in the chimney of the court-house. Before descending, they fly in large flocks, making many ample and circuitous sweeps in the air; and as the point of the vortex falls, individuals drop into the chimney by degrees, until the whole have descended, which generally takes place in the dusk of the evening. They all, however, disappear about the first week in August. Like the rest of the tribe, the Chimney Swift flies very quick, and with but slight vibrations of its wings; appearing as it were to swim in the air in widening circles, shooting backwards and forwards through the ambient space at great elevations, and yet scarcely moving its wings. Now and then it is heard to utter, in a hurried manner, a sound like *tsip tsip tsip tsee tsee*. It is never seen to alight but in hollow trees or chimneys, and appears always most gay and active in wet and gloomy weather. The wonderful account of the Swallow roosts in Honduras, given by Captain Henderson, appears to be entirely applicable to this species.

The Chimney Swift is $4\frac{1}{2}$ inches in length, and 12 in alar extent. Feet very muscular, the claws exceedingly sharp. The closed wings extend $1\frac{1}{2}$ inches beyond the tail, which is rounded, with the shafts extending beyond their vanes into sharp, strong, and very elastic points, which thus afford assistance in clinging to their singular roosts. The eye black, surrounded by a bare blackish skin or orbit.

§ II. — NOCTURNAL FAMILY.

With the head, eyes, and ears very large. The middle nail generally pectinated on the inner side. The plumage loose, soft, and light, as in Owls.

NIGHT-HAWKS. (CAPRIMULGUS. L.)

With the BILL extremely short, feeble, and cleft beyond the eyes; upper mandible almost always surrounded with spreading bristles, and somewhat hooked at the tip, the margin turned outward. NOSTRILS basal, wide, partly closed by a feathered membrane, and leaving usually a tubular opening. TONGUE small, acute, and entire. FEET, tarsi partly feathered, the anterior toes united by a small membrane to the 1st articulation; the hind toe reversible. NAILS very short, beneath channeled. WINGS long, the 1st primary shorter than the 2d and 3d, which are longest. TAIL of 10 feathess.—FEMALE easily distinguishable from the male; but the young similar with the adult. They moult once or twice in the year; and the plumage is of dull and very blended colors.

These are solitary, shy, and sylvan birds, flying rapidly in the twilight and night, when their vision is more acute. Except in cloudy weather, they remain concealed by day, like Owls; and in consequence of the softness of their feathers, their flight is nearly silent. They hunt for moths with the mouth extended open. They remain constantly paired, and in the breeding season flutter their wings like Pigeons. They lay one or two large eggs on the ground, without nest, and rarely in a hollow tree, or in the cleft of a rock. The voice is unpleasant, quaint, and monotonous. They sometimes also utter a booming sound in flight, usually at the moment of rapidly descending in their aerial gyrations. They inhabit all parts of the globe, but abound in the warmer parts of America.

‘CHUCK-WILL’S-WIDOW.’

(*Caprimulgus carolinensis*, GM. WILSON, vi. p. 95. pl. 54. fig. 2. AUD. pl. 52. ORN. i. p. 273. Phil. Museum, No. 7723.)

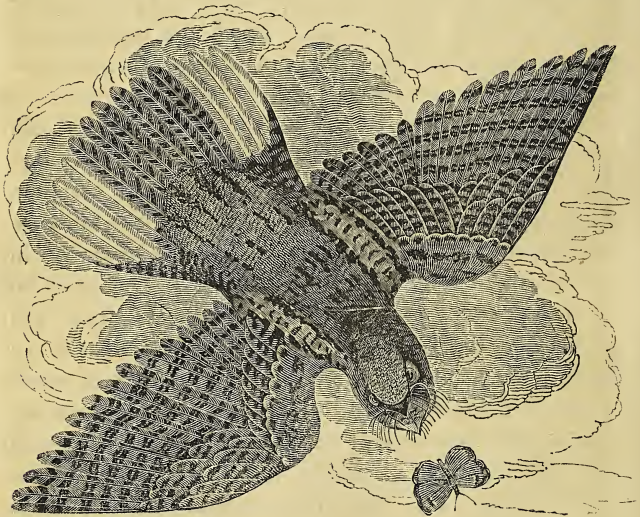
SP. CHARACT.—Bristles of the mouth shorter than the bill; tail rounded, reaching an inch beyond the wings; 3 outer tail-feathers white on the inner web at tip. Length 12 inches.—FEMALE, with the tip of the 3 outer tail-feathers dark ochreous.

THE Carolina Goatsucker is seldom seen to the north of Virginia, though in the interior its migrations extend up the shores of the Mississippi to the 38th degree. After wintering in some part of the tropical continent of

America, it arrives in Georgia and Louisiana about the middle of March, and in Virginia early in April. Like the following species, it commences its singular serenade of '*chuck-will's-widow*, in the evening soon after sunset, and continues it with short interruptions for several hours. Towards morning, the note is also renewed, until the opening dawn. In the day, like some wandering spirit, it retires to secrecy and silence, as if the whole had only been a disturbed dream. In a still evening this singular call may be heard for half a mile, its tones being slower, louder, and more full than those of the Whip-Poor-Will. The species is particularly numerous in the vast forests of the Mississippi, where throughout the evening its echoing notes are heard in the solitary glens, and from the surrounding and silent hills, becoming almost incessant during the shining of the moon; and at the boding sound of its elfin voice, when familiar and strongly reiterated, the thoughtful, superstitious savage becomes sad and pensive. Its flight is low, and it skims only a few feet above the surface of the ground, frequently settling on logs and fences, from whence it often sweeps around in pursuit of the flying moths and insects which constitute its food. Sometimes they are seen sailing near the ground, and occasionally descend to pick up a beetle, or flutter lightly round the trunk of a tree in quest of some insect crawling upon the bark. In rainy and gloomy weather, they remain silent in the hollow log which affords them and the bats a common roost and refuge by day. When discovered in this critical situation, and without the means of escape, they ruffle up their feathers, spread open their enormous mouths, and utter a murmur almost like the hissing of a snake, thus endeavouring, apparently, to intimidate their enemy when cut off from the means of escape.

This species, like most others, also lays its eggs, two in number, merely on the ground, and usually in the woods; they are of a dark olive, sprinkled with darker specs, oval, and rather large; if they be handled, or even the young, the parents suspicious of danger, remove them to some other place. As early as the middle of August, according to Audubon, they retire from the U. States.

This species is about 12 inches long, and 26 in alar extent. The whole body clothed with feathers more or less sprinkled and mottled with brown, rufous, black and white; the tail with zig-zag and hering-bone figures of black. Across the throat a slight band of whitish, the breast black, powdered with ferruginous, the belly and vent lighter.



‘WHIP-POOR-WILL.’

(*Caprimulgus vociferus*, WILSON, v. p. 71. pl. 41. fig. 1, 2, 3.)

SP. CHARACT. — Bristles on the cheeks much longer than the bill; tail greatly rounded, reaching one half beyond the wings; prima-

ries chequered with dark spots. — *Male*, with the 3 outer tail-feathers white at the summits. — In the *female* the same part is pale ochreous, as well as the crescent line on the throat.

THIS remarkable and well known nocturnal bird arrives in the Middle States about the close of April, or the beginning of May, and proceeds, in his vernal migrations along the Atlantic States, to the centre of Massachusetts, being rare and seldom seen beyond the latitude of 43° ; and yet in the interior of the continent, according to Vieillott, they continue as far as Hudson's bay, and were heard, as usual, by Mr. Say, at Pembino in the high latitude of 49° . In all this vast intermediate space, as far south as Natchez on the Mississippi, and the interior of Arkansas, they familiarly breed and take up their temporary residence. In the eastern part of Massachusetts, however, they are uncommon, and always affect sheltered, wild, and hilly situations. About the same time that the sweetly echoing voice of the Cuckoo is first heard in the north of Europe, issuing from the leafy groves, as the sure harbinger of the flowery month of May, arrives amongst us, in the shades of night, the mysterious '*Whip-poor-will*.' The well known saddening sound is first only heard in the distant forest, reëchoing from the lonely glen or rocky cliff; at length, the oft-told solitary tale is uttered from the fence of the adjoining field or garden, and sometimes the slumbering inmates of the cottage are serenaded from the low roof or from some distant shed. Superstition, gathering terror from every extraordinary feature of nature, has not suffered this harmless nocturnal babbler to escape suspicion, and his familiar approaches are sometimes dreaded as an omen of misfortune.

In the lower part of the state of Delaware, I have found these birds troublesomely abundant in the breeding sea-

son, so that the reiterated echoes of *'whip-'whip-pöör-will*, *'whip-pěři-will*, issuing from several birds at the same time, occasioned such a confused vociferation, as at first to banish sleep. This call, except in moonlight nights, is continued usually till midnight, when they cease until again aroused, for a while, at the commencement of twilight. The first and last syllables of this brief ditty receive the strongest emphasis, and, now and then, a sort of guttural *cluck* is heard between the repetitions, but the whole phrase is uttered in little more than a second of time.

But if superstition takes alarm at our familiar and simple species, what would be thought by the ignorant of a South American kind, large as the Wood Owl, which, in the lonely forests of Demerara, about midnight breaks out, lamenting like one in deep distress, and in a tone more dismal even than the painful hexachord of the slothful Aï. The sounds, like the expiring sighs of some agonizing victim, begin with a high loud note, "*ha, ha, ha ha ha! ha! ha!*" each tone falling lower and lower, till the last syllable is scarcely heard, pausing a moment or two between this reiterated tale of seeming sadness.

Four other species of the Goatsucker, according to Waterton, also inhabit this tropical wilderness, among which also is included our present subject. Figure to yourself the surprise and wonder of the stranger who takes up his solitary abode for the first night amidst these awful and interminable forests, when, at twilight, he begins to be assailed familiarly with a spectral equivocal bird, approaching within a few yards, and then accosting him with "*who-are-you, 'who-'who-'who-are-you*"? Another approaches, and bids him, as if a slave under the lash, "*work-away, work-work-work-away*"; a third mournfully cries, "*willy-come-go! 'willy-willy-willy-come-go!*" and as you get among the high lands, our old ac-

quaintance vociferates "*whip-poor-will, 'whip-'whip-'whip-poor-will!*" It is therefore not surprising, that such unearthly sounds should be considered in the light of supernatural forebodings issuing from spectres in the guise of birds.

Although our Whip-Poor-Will seems to speak out in such plain English, to the ears of the aboriginal Delaware its call was *wecoōlis*, though this was probably some favorite phrase or interpretation, which served it for a name. The Whip-Poor-Will, when engaged in these nocturnal rambles, is seen to fly within a few feet of the surface in quest of moths and other insects, frequently, where abundant, alighting around the house. During the day they retire into the darkest woods, usually on high ground, where they pass the time in silence and repose, the weakness of their sight by day compelling them to avoid the glare of the light.

The female commences laying about the second week in May in the Middle States, considerably later in Massachusetts; she is at no pains to form a nest, though she selects for her deposit some unfrequented part of the forest, near a pile of brush, a heap of leaves, or the low shelving of a hollow rock, and always in a dry situation; here she lays 2 eggs, without any appearance of an artificial bed. They are of a dusky bluish-white, thickly blotched with dark olive. This deficiency of nest is amply made up by the provision of nature, for, like Partridges, the young are soon able to run about after their parents; and, until the growth of their feathers, they seem such shapeless lumps of clay-colored down, that it becomes nearly impossible to distinguish them from the ground on which they repose. Were a nest present in the exposed places where we find the young, none would escape detection. The mother, also, faithful to her charge, de-

ceives the passenger by prostrating herself along the ground with beating wings, as if in her dying agony. The activity of the young and old in walking, and the absence of a nest, widely distinguishes these birds from the Swallows, with which they are associated. A young fledged bird of this species, presented to me, ran about with great celerity, but refused to eat, and kept continually calling out at short intervals *pé-ūgh*, in a low mournful note.*

After the period of incubation, or about the middle of June, the vociferations of the male cease, or are but rarely given. Towards the close of summer, previously to their departure, they are again occasionally heard, but their note is now languid and seldom uttered; and early in September they leave us for the more genial climate of tropical America, being there found giving their usual lively cry in the wilds of Cayenne and Demerara. They enter the United States early in April, but are some weeks probably in attaining their utmost northern limit.

Their food appears to be large moths, beetles, grasshoppers, ants, and such insects as frequent the bark of decaying timber. Sometimes, in the dusk, they will skim within a few feet of a person, making a low chatter as they pass; they also, in common with other species, flutter occasionally around the domestic cattle to catch any insects which approach or rest upon them, and hence the mistaken notion of their sucking goats, while they only cleared them of molesting vermin.

The Whip-poor-will is $9\frac{1}{2}$ inches long, and 19 in the stretch of the wings. The bill blackish; nostrils tubular. Mouth very large, pale flesh-color within, and beset along the sides with a number of long

* The resemblance of this tone to that of the Purple Martin is somewhat remarkable.

thick bristles, the longest extending more than $\frac{1}{2}$ an inch beyond the point of the bill. Eyes bluish-black. The plumage above intricately variegated with black, brownish-white, and rust-color, sprinkled and powdered with numerous minute streaks and spots. Upper part of the head light brownish-grey, marked with a longitudinal stripe of black, with others passing out from it; the back is darker, finely streaked with a lighter color. The scapulars are very light yellowish-white, variegated with a few oblique spots of black. Tail rounded, of 10 feathers, the exterior $1\frac{1}{4}$ inches shorter than the middle ones; the 3 outer feathers on each side are blackish-brown for half their length, and from thence white to their summits; the exterior one is edged with deep brown, studded with paler spots; the 4 middle ones are without the white at the ends, and marked with herring-bone figures of black and pale ochre finely powdered. Cheeks and sides of the head nearly of a brick-color. The wings elegantly spotted with very light and dark brown. Chin black, with small brown spots. A narrow semicircle of white passes across the throat; breast and belly irregularly mottled and streaked with black and yellow ochre. Legs and feet of a light purplish flesh-color, seamed with white; the former feathered before, nearly to the feet. Middle claw pectinated. — The *female* is about an inch less.

NIGHT-HAWK, OR NIGHT-JAR.

(*Caprimulgus virginianus*, BRISS. *C. americanus*, WILSON, v. p. 65. pl. 40. fig. 1. and 2. Phil. Museum, No. 7723, 7724.)

SP. CHARACT. — Bill without bristles; tail forked, not extending as far as the tips of the wings; primaries plain blackish, with a white spot. — *Male*, with a triangular spot on the throat, and a white band on the tail.

TOWARDS the close of April the Night-Hawk arrives in the Middle States, and early in May they are first seen near the sea-coast of Massachusetts, which at all times appears to be a favorite resort. In the interior of the continent they penetrate as far, at least, as the sources of the Mississippi; they are likewise observed around the dreary coasts of Hudson's Bay, and breed in the whole intermediate region to the more temperate and elevated

parts of Georgia. They are now commonly seen towards evening, in pairs, sailing round in sweeping circles, high in the air, occasionally descending lower to capture flying insects, chiefly of the larger kind, such as wasps, beetles, and moths. About the middle of May, or later, the female selects some open spot in the woods, the corner of a corn-field, or dry gravelly knoll, on which to deposit her eggs, which are only 2, and committed to the bare ground, where, however, from the similarity of their tint with the soil, they are, in fact, more secure from observation than if placed in a nest. They are nearly oval, of a muddy bluish-white, marked all over with touches of an umber color. Here the male and his mate reside during the period of incubation, roosting at a distance from each other on the ground, or in the neighbouring trees; and in consequence of the particular formation of their feet, like the rest of the genus, they roost or sit lengthwise on the branch. During the progress of incubation, the male is seen frequently, for some hours before nightfall, playing about in the air over the favorite spot, mounting in wide circles, occasionally propelled by alternate quick and slow vibrations of the wings, until at times he nearly ascends beyond the reach of sight, and is only known by his sharp and sudden squeak, which greatly resembles the flying shriek of the towering Swift. At other times he is seen suddenly to precipitate himself downwards for 60 or 80 feet, and wheeling up again as rapidly; at which instant a hollow whirr, like the rapid turning of a spinning-wheel, or a strong blowing into the bung-hole of an empty hogshead, is heard, and supposed to be produced by the action of the air in the open mouth of the bird. He then again mounts as before, playing about in his ascent, and giving out his harsh squeak, till in a few moments, the hovering is renewed as before; and at this

occupation, the male solely continues till the close of twilight. The European species is heard to utter the hollow whirr when perched, and while holding it head downwards, so that it does not appear to be produced by the rushing of the air. The female, if disturbed while sitting on her charge, will suffer the spectator to advance within a foot or two of her before she leaves the nest ; she then tumbles about and flutters with an appearance of lameness, to draw off the observer, when, at length, she mounts into the air and disappears. On other occasions, the parent, probably the attending male, puffs himself up as it were into a ball of feathers ; at the same time striking his wings on the ground, and opening his capacious mouth to its full extent, he stares wildly, and utters a blowing hiss, like that of the Barn Owl when surprised in his hole. On observing this grotesque manœuvre, and this appearance so unlike that of a volatile bird, we are struck with the propriety of the metaphorical French name of '*Crapaud volans*,' or Flying Toad, which it indeed much resembles while thus shapelessly tumbling before the astonished spectator. The same feint is also made when they are wounded, on being approached. Like some of the other species, instinctively vigilant for the safety of their misshapen and tender brood, they also probably convey them or the eggs from the scrutiny of the meddling observer. In our climate they have no more than a single brood.

Sometimes the Night-Hawk, before his departure, is seen to visit the towns and cities, sailing in circles, and uttering his squeak as he flies high and securely over the busy streets, occasionally sweeping down, as usual, with his whirring notes ; and at times he may be observed, even on the tops of chimneys, uttering his harsh call. In gloomy weather, they are abroad nearly the whole

day, but are most commonly in motion an hour or two before dusk. Sometimes, indeed they are seen out in the brightest and hottest weather, and occasionally, while basking in the sun, find means to give chase to the *Cicindeli*, *Carabi*, and other entirely diurnal insects, as well as grasshoppers, with which they often gorge themselves in a surprising manner ; but they probably seldom feed more than an hour or two in the course of the day.

About the middle of August, they begin their migrations towards the south, on which occasion they may be seen in the evening moving in scattered flocks, consisting of several hundreds together, and darting after insects, or feeding leisurely, as they advance towards more congenial climes. For two or three weeks these processions along the rivers and their banks, tending towards their destination, are still continued. Mingled with the wandering host, are sometimes also seen the different species of Swallow, a family to which they are so much allied in habits and character ; but by the 20th of September the whole busy troop have disappeared for the season.

The Night-Hawk is $9\frac{1}{2}$ inches in length, and 23 in alar extent. Above deep blackish-brown, powdered, on the back, scapulars, and head, with innumerable spots and touches of a pale cream-color, and interspersed with rufous specks. A spot of white extends over the 5 first primaries. Below marked with transverse lines of dusky and yellowish. — *Female* an inch shorter.

ORDER NINTH.

PIGEON TRIBE. (COLUMBINI, *Illig.*, &c.)

The BILL of moderate size, compressed, vaulted, turgid towards the tip, which is more or less curved; the base of the upper mandible covered with a soft skin, protuberant at its base, in which the nostrils are situated. NOSTRILS medial, longitudinal. *Tongue* acute, entire. *Feet* short and rather robust, the tarsi reticulated; toes divided. *Wings* moderate. *Tail* of 12 or 14 feathers. — The female generally similar in plumage to the male. The young differ considerably previous to the first moult, which is annual.

The birds of this order, in their mild and familiar manners, have a near relation with the Gallinaceous order following. They are gregarious, living in thick forests, or on high buildings. Their food, consisting of grain and seeds, rarely of insects, undergoes a preparatory maceration in the crop, before passing into the stomach, and with the same kind of prepared and disgorged nutriment they feed their young, which only quit the nest when in a condition to fly. They generally build in forests, or in the clefts of rocks, ruins, or hollow trees, and often make a loose and shallow nest of small twigs, roomy enough to accommodate both sexes; they lay generally 2 eggs, several times in a year, and though so remarkably gregarious, after the termination of the breeding season, they are

still said to be paired for life. At this time the male is remarkable for his assiduous and affectionate address, rustling with the wings, billing, and cooing, with various gallant evolutions. They commonly quench their thirst at a single draught, at the same time immersing the bill into the water. They have no song, or other note than their plaintive and monotonous *coo*. Species are found to inhabit all climates, but they are most numerous in warm countries.

PIGEONS. (COLUMBA, L.)

The character of the genus similar with that of the order.

Subgenus. — COLUMBA. (*Temm. Bonap.*)

The bill moderately robust, straight, and turgid at tip. Tarsus rather short. Wings long and acute; the 1st primary somewhat shorter than the 2d, which is longest.

These live in wooded countries, building in trees or hollow trunks, the nest of twigs, leaves, feathers, and similar substances. Flight rapid and sonorous.

† Tail short and even, consisting of 12 feathers.

BAND-TAILED PIGEON.

(*Columba fasciata*, SAY, BONAP. Am. Orn. i. p. 77. pl. 8. fig. 3. Phil. Museum, No. 4938.)

SP. CHARACT. — Purplish-grey; a white band behind the head; tail with a broad blackish bar near the middle; bill yellow, black at tip.

THE male bird, from which the description is taken by the Prince of Musignano, was, it appears, shot in July by Mr. Titian Peale, near a saline spring, on a small tributary of the river Platte, within the first range of the Rocky Mountains; a second individual, probably the mate, was seen with it. Of its manners nothing is known, though, from the season of the year, it is probable that the pair had commenced incubation in the vicinity.

The specimen was 13 inches long. The feet yellow, and the nails black. Irids blackish. Back of the neck from the base of the head, of a brilliant golden-green; under part of the neck pale vinaceous purple, the vent paler. Tail slightly rounded.

WHITE-CROWNED PIGEON.

(*Columba leucocephala*, L. BONAP. Am. Orn. iii. pl. 15. fig. 1. [female.]

SP. CHARACT. — Slate-blue; crown cream-white; bill red, whitish at tip.

THIS species, well known as an inhabitant of Mexico and the West Indies, is also gregarious, and found in great numbers on the rocks of the Florida Keys, where they breed in society, and, when first seen in the spring, feed principally upon the beach plum, and the berries of a kind of palm. From the peculiar selection of their breeding-places, they are known, in some of the West Indies, particularly Jamaica, St. Domingo, and Porto Rico, by the name of Rock Pigeons. They likewise abound in the Bahama Islands, and form an important article of food to the inhabitants; particularly the young, as they become fully grown.

The length of the White-Crowned Pigeon is about 14 inches, the alar extent 23. The bill red at the base, above bluish-white. Feet carmine red. Iris orange. Cervical space small, deep purplish, changing to violet, surrounded by a larger portion of scaly feathers, of a bright green, with bluish and golden reflections. Primaries dusky black. Tail even.

ZENALDA DOVE.

(*Columba zenaida*, BONAP. Am. Orn. iii. pl. 15. fig. 2. [female.]

SP. CHARACT. — Brownish-ash; beneath vinaceous; an amethystine spot under each ear; tail with a black band, 3 lateral feathers pearl-grey at tip.

THIS beautiful little species inhabits the Keys of Florida with the preceding, but is rare. It is also known to exist in the neighbouring island of Cuba. They keep much on the ground, where they dust themselves and swallow gravel to assist digestion. When rising on the wing, the same whistling noise is heard from the motion of their wings as in the case of the common Carolina Turtle Dove.

The Zenaida Dove measures only 10 inches. Bill black. Iris dark brown. Feet red. Beneath the ears a small bright and deep violaceous spot; above this also a smaller one. Anterior cervical region, with metallic golden-violet reflections, slightly passing into greenish. Scapulars spotted with black. Quills dusky; the secondaries broadly terminated with white, 2d primary longest. Tail nearly even, of 12 feathers.

†† *With the tail long, and cuneiform.*

CAROLINA PIGEON, OR TURTLE DOVE.

(*Columba carolinensis*, L. WILSON, v. p. 91. pl. 43. fig. 1. Phil. Museum, No.)

SP. CHARACT.—Forehead and breast vinaceous; a black spot under each ear; tail of 14 feathers, with 4 of the lateral ones black near the extremity, and white at the tip.

THIS almost familiar Pigeon, in the course of the spring leisurely migrates through the interior as far as to Canada, though, in the Eastern States, they are very rarely met with to the north of Connecticut. Many appear sedentary in the warmer states, where they breed as far south as Louisiana. They are also said to inhabit the Antilles. In the warmer parts of the Union they commence laying early in April; and in South Carolina I heard their plaintive *coo* on the 29th of January; but at the extremity of their range they scarcely begin to breed before the middle of May. They lay, as usual, 2 eggs, of a pure white, and make their nest in the horizontal branches of trees. It is formed of a mere layer

of twigs, so loosely and slovenly put together as to appear scarcely sufficient to prevent the young from falling out.

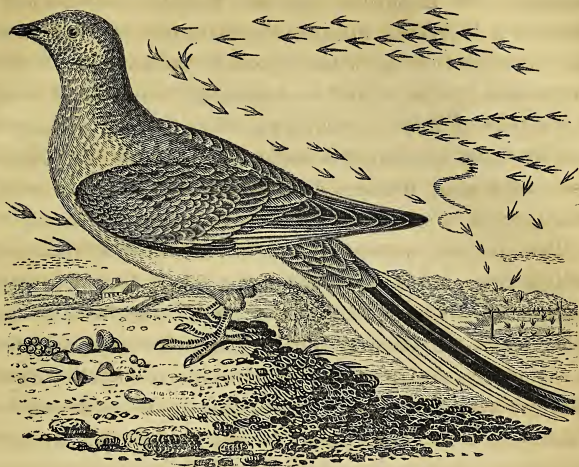
By the first fine days of the early southern spring we hear from the budding trees of the forest, or the already blooming thicket, the mournful call of the Carolina Turtle Dove, commencing as it were with a low and plaintive sigh, *a'gh cóo cóo cóo*, repeated at impressive intervals of half a minute, and heard distinctly to a considerable distance through the still and balmy air of the reviving season. This sad but pleasing note is also more distinguished at this time, as it seeks the noon-day warmth, in which to utter its complaint, and where it is now heard without a rival.

The flight of this species is rapid and protracted, and, as usual in the genus, accompanied by a very audible whistling noise ; they fly out often in wide circles, but seldom rise above the trees, and keep out near the skirt of the forest, or round the fences and fields, which they visit with considerable familiarity, gleaning after the crop has been removed, and seldom molesting the farmer, except by now and then raising up a few grains in sowing-time, which may happen to be exposed too temptingly to view. The usual food of this species is various kinds of grain and small acorns, as well as the berries of the holly, dogwood, poke, whortle and partridge berries, with other kinds, according to the season. In the nuptial period, the wide circling flight of the male is often repeated, around his mate, towards whom he glides with wings and tail expanded, and gracefully alights on the same or some adjoining tree, where she receives his attentions, or fosters her eggs and infant brood. On alighting they spread out their flowing train in a graceful attitude, accompanying the motion by a clucking, and balancing of the neck and head, evincing the lively emotion and mu-

tual affection they cherish. When the female now confines herself to her eggs, her constant mate is seen feeding her with a delicate and assiduous attention, and the sentimental scene appears almost like the living reality of the fable of Psyche and Love.

The roosting-places preferred by the Carolina Turtle Dove are among the long and unshorn grass of neglected fields, in the slight shelter of corn-stalks, or the borders of meadows; they also occasionally seek harbour among the rustling and falling leaves, and amidst the thick branches of various evergreens. But in every situation, even though in darkness, they are so vigilant as to fly at the instant of approach. They do not huddle together, but take up their rest in solitude, though a whole flock may be in the same field; they also frequently resort to the same roosting-places if not materially molested. It is a hardy species, enduring considerable cold, and some remain even in the Middle as well as the Southern States throughout the year; they are far less gregarious and migratory than the common Wild Pigeon. When their food becomes scanty in the fields, in the course of the winter, they approach the farm, feeding among the poultry, with the Blackbirds, Sparrows, and other guests of the same accidental bounty, and, if allowed without reprisal, appear as gentle as domestic Doves. Raised from the nest, they are easily tamed, and instances are known of their breeding in confinement. Their flesh is also much esteemed, and by some considered as scarcely inferior to that of the Snipe or Woodcock.

The length of this species is about 12 inches, alar extent 17. Bill blackish, purplish red at the base; feet also of the latter color. Crown and upper part of the neck, greenish-blue. The general color above pale yellowish-brown. Some of the inner wing-coverts spotted with black. Below brownish-yellow.



PASSENGER PIGEON.

(*Columba migratoria*, L. WILSON, v. p. 102. pl. 44. fig. 1. [male.]
 AUD. pl. 62. Orn. i. p. 319. Phil. Museum, No.)

SP. CHARACT. — Bluish-grey; belly white; throat, breast, and sides vinaceous; tail black, of 12 feathers, the 5 lateral ones whitish. — *Female* paler, with the breast cinereous brown. — *Young* of a dull muddy grey, spotted with whitish.

THE Wild Pigeon of America, so wonderful for its gregarious habits, is met with more or less according to circumstances from Mexico to Hudson's Bay, in which inhospitable region they are even seen in December, weathering the severity of the climate with indifference, and supporting themselves upon the meagre buds of the juniper, when the ground is hidden by inundating snows. To the west they are found to the base of the Northern Andes or Rocky Mountains, but do not appear to be known beyond this natural barrier to their devious wan-

derings. As might be supposed from its extraordinary history, it is formed with peculiar strength of wing, moving through the air with extreme rapidity, urging its flight also by quick and very muscular strokes. During the season of amorous address it often flies out in numerous hovering circles; and while thus engaged, the tips of the great wing feathers are heard to strike against each other, so as to produce a very audible sound.

The almost incredible and unparalleled associations which the species form with each other, appear to have no relation with the usual motives to migration among other birds. A general and mutual attachment seems to occasion this congregating propensity. Nearly the whole species, which at any one time inhabit the continent, are found together in the same place; they do not fly from climate, as they are capable of enduring its severity and extremes. They are even found to breed in the latitude of 51° round Hudson's Bay, and the interior of New Hampshire, as well as in the 32^{d} degree in the dense forests of the great valley of the Mississippi. The accidental situation of their food alone directs all their movements; while this continues to be supplied, they sometimes remain sedentary in a particular district, as in the dense forests of Kentucky, where the great body remained for years in succession, and were scarcely elsewhere to be found; and here, at length, when the mast happened to fail, they disappeared for several years.

The rapidity of flight, so necessary in their vast domestic movements, is sufficiently remarkable. The Pigeons killed near the city of New York, have been found with their crops full of rice collected in the plantations of Georgia or Carolina; and as this kind of food is digested by them entirely in 12 hours, they must have travelled probably 3 or 4 hundred miles in about the half of that

time, or have sped at the rate of a mile in a minute. With a velocity like this, our Pigeon might visit the shores of Europe in less than three days ; and in fact, according to Fleming, a straggler was actually shot in Scotland in the winter of 1825. Associated with this rapidity of flight, must also be the extent and acuteness of their vision, or otherwise the object of their motions would be nugatory ; so that, while thus darting over the country almost with the velocity of thought, they still keep up a strict survey for their fare ; and, in passing over a sterile region, sail high in the air with a widely extended front, but instantly drop their flight, at the prospect of food, flying low, till they alight near an ample supply.

The associated numbers of Wild Pigeons, the numerous flocks which compose the general swarm, are without any other parallel in the history of the feathered race ; they can indeed alone be compared to the finny shoals of herrings, which, descending from the arctic regions, discolor and fill the ocean to the extent of mighty kingdoms. Of their amazing numbers, and the circumstances attendant on it, the reader will do well to consult the indefatigable Wilson and the celebrated Audubon. Our limits, and more bounded personal information, will not allow us to enlarge on this curious and extraordinary subject. To talk of hundreds of millions of individuals of the same species habitually associated in feeding, roosting, and breeding, without any regard to climate or season, as an operating cause in these gregarious movements, would at first appear to be wholly incredible, if not borne out by the numerous testimony of all the inhabitants of the neighbouring districts. The approach of the mighty feathered army with a loud rushing roar, and a stirring breeze, attended by a sudden darkness, might be mistaken for a fearful tornado about to overwhelm the face of nature. For several

hours together the vast host, extending some miles in breadth, still continues to pass in flocks without diminution. The whole air is filled with them; their muting resembles a shower of sleet, and they shut out the light as if it were an eclipse. At the approach of the Hawk, their sublime and beautiful aërial evolutions are disturbed like the ruffling squall extending over the placid ocean; as a thundering torrent they rush together in a concentrating mass, and heaving in undulating and glittering sweeps towards the earth, at length again proceed in lofty meanders like the rushing of a mighty animated river.

But the Hawk is not their only enemy, tens of thousands are killed in various ways by all the inhabitants far and near. The evolutions of the feeding Pigeons as they circle round, are both beautiful and amusing. Alighting, they industriously search through the withered leaves for their favorite mast; those behind are continually rising and passing forward in front, in such rapid succession, that the whole flock, still circling over the ground, seem yet on the wing.

As the sun begins to decline, they depart in a body for the *general roost*, which is often hundreds of miles distant, and is generally chosen in the tallest and thickest forests almost divested of underwood. Nothing can exceed the waste and desolation of these nocturnal resorts; the vegetation becomes buried by their excrements to the depth of several inches. The tall trees, for thousands of acres, are completely killed, and the ground strewn with massy branches torn down by the clustering weight of the birds which have rested upon them. The whole region for several years presents a continued scene of devastation, as if swept by the resistless blast of a whirlwind. The Honorable T. H. Perkins, informs me that he has seen one of these desolated roosting-grounds on the bor-

ders of Lake Champlain in New York, and that the forest to a great extent presented a scene of total ruin.

The *breeding-places*, as might naturally be expected, differ from the *roosts* in their greater extent. In 1807, according to Wilson, one of these immense nurseries, near Shelbyville in Kentucky, was several miles in breadth, and extended through the woods for upwards of 40 miles! After occupying this situation for a succession of seasons, they at length abandoned it, and removed 60 or 80 miles off to the banks of Green river in the same state, where they congregated in equal numbers.* These situations seem regulated by the prospect of a supply of food, such as beech and oak mast. They also feed on most kinds of pulse and grain, as well as whortle-berries, with those of the holly and nettle-tree. Wilson often counted upwards of 90 nests in a single tree, and the whole forest was filled with them. These frail cradles for the young are merely formed of a few slender dead twigs, negligently put together, and with so little art, that the concavity appears scarcely sufficient for the transient reception of the young, who are readily seen through this thin flooring from below. The eggs are white, as usual, and only two in number, one of them abortive, according to Wilson, and producing usually but a single bird. Audubon, however, asserts, that there are two, as in the tame Pigeons, where the number of the sexes in this faithful tribe are almost uniformly equal. Their *cooing* call, billing, and general demeanor are apparently quite similar to the behaviour of the domestic species in the breeding-season. Birds of prey, and rapacious animals generally, are pretty regular attendants upon these assailable

* By some remarkable inadvertence, this place, with *all the circumstances*, is described by Audubon as a *roost* of 40 miles by 3 in breadth, about the dimensions of Wilson's breeding-place.

communities. But their most destructive enemy is man ; and as soon as the young are fully grown, the neighbouring inhabitants assemble, and encamp for several days around the devoted Pigeons with waggons, axes, and cooking utensils, like the outskirts of a destructive army. The perpetual tumult of the birds, the crowding and fluttering multitudes, the thundering roar of their wings, and the crash of falling trees, from which the young are thus precipitated to the ground by the axe, produces altogether a scene of indescribable and almost terrific confusion. It is dangerous to walk beneath these clustering crowds of birds, from the frequent descent of large branches, broken down by the congregating millions ; the horses start at the noise, and conversation can only be heard in a shout. These *squabs*, or young Pigeons, of which three or four broods are produced in the season, are extremely fat and palatable, and, as well as the old birds killed at the roosts, are often, with a wanton prodigality and prodigious slaughter, strewed on the ground as fattening *food for the hogs* ! At the roosts, the destruction is no less extensive ; guns, clubs, long poles, pots of burning sulphur, and every other engine of destruction, which wanton avarice can bring forward, are all employed against the swarming host. Indeed for a time, in many places, nothing scarcely is seen, talked of, or eaten, but Pigeons !

In the Atlantic States where the flocks are less abundant, the gun, decoy, and net are put in operation against the devoted throng. Twenty or even thirty dozen have been caught at a single sweep of the net. Wagon loads of them are poured into market, where they are sometimes sold for no more than a cent a piece. Their combined movements are also sometimes sufficiently extensive. The Honorable T. H. Perkins remarks, that

about the year 1798, while he was passing through New Jersey, near Newark, the flocks continued to pass for at least two hours without cessation; and he learnt from the neighbouring inhabitants, that, in descending upon a large pond to drink, those in the rear alighting on the backs of the first that arrived (in the usual order of their movements on land to feed), pressed them beneath the surface, so that tens of thousands were thus drowned. They were likewise killed in great numbers at the roost with clubs.

The Wild or Passenger Pigeon is about 16 inches long, and 24 in alar extent. The bill black. Iris fiery orange. Legs and feet lake red. Lower part and sides of the neck with a metallic changeable hue of gold, green, and purplish crimson, the last color prevalent. Scapular region spotted with a few black blotches. Quill-feathers dusky.—*Female* somewhat shorter, the changeable cervical spot smaller and less brilliant.

Subgenus. — GOURA. (*Bonap.*)

The BILL slender, flexible, scarcely turgid at tip; the upper mandible furrowed at the sides. NOSTRILS small, orbicular, situated in the furrow. TARSI rather long. *Wings* short, rounded, and concave, the 1st primary shorter than the 5th, the 3d longest.—Tail of 12 feathers.

These birds make some approaches to the Gallinaceous order. The greater number dwell on the ground, where they breed. The young of some of the species are said even to run as soon as hatched, and seek out their own sustenance.

GROUND DOVE.

(*Columba passerina*, WILSON, vi. p. 15. pl. 46. fig. 2. & 3. [male and female.] Phil. Museum, No.)

SP. CHARACT.—The scapulars with dark spots; tail rounded, lateral feathers black, tipped and edged with white; bill black at tip, and with the feet yellow.

THE Ground Dove is an inhabitant of all the states of the Union south of Virginia, and is met with also in the West Indies. They are common in the sea islands of the Southern States, particularly in South Carolina and Georgia, where they are seen in small flocks of from 15 to 20. They are found usually upon the ground, and prefer the open fields and cultivated tracts to the woods; their flight is seldom protracted, as they fly out commonly only to short distances; though on the approach of winter they retire to the islands and milder parts of the continent, arriving again at their northern resorts early in April. Like some other species they have a frequent jetting motion with the tail, and the usual tender cooing and gesticulations of the tribe. They feed on various seeds and berries, particularly on those of the tooth-ache tree, near which they are frequently seen in the season. They likewise feed on rice and other small grain, and become easily tamed and reconciled to the cage; in this way they are also occasionally fattened for the table, and are particularly esteemed by the French planters.

This species is $6\frac{1}{4}$ inches long. Front, throat, breast, and sides of the neck, pale vinaceous purple; crown and hind-head pale blue, blended with purple. Back cinereous brown, scapulars tinged with pale purple and marked with oblong spots of glossy blue, reflecting tints of purple. Belly pale vinaceous brown, inclining to cinereous near the vent. Quills dusky, the inner vanes ferruginous. Tail rounded, the 2 middle feathers cinereous brown, the rest black, tip and edged with white. Legs and feet yellow. Bill yellow, black at tip. Iris orange red. — In the *female* the back and tail-coverts are nearly of a plain mouse-color. The throat speckled with dull white, dusky, and muddy yellowish white; the spots on the scapulars dark purplish blood-color, reflecting tints of blue.

ORDER TENTH.

GALLINACEOUS BIRDS. (GALLINÆ, *Lin.* &c.)

WITH the BILL short, and convex ; the upper mandible vaulted, curved from its base, or only at the point. NOSTRILS, lateral, half covered by an arched, rigid membrane. FEET stout, tarsus long ; toes usually 3 before, and generally 1 behind articulated with the tarsus higher than the rest, and scarcely touching the ground at tip ; hind toe short or wanting ; nails without any retractile motion. *Wings* generally short, rounded, concave, with the quills rigid and curved. *Tail* of from 10 to 18 feathers, very rarely wanting.

The female smaller, less brilliant, and differing from the male in plumage. The young at first covered with down only. The moult annual.

These birds are generally of considerable magnitude, with the body very fleshy and heavy, and the head small. They also keep much on the ground, scratching up the earth often in quest of their food ; and are fond of basking and wallowing in the dust. They subsist essentially on grain and seeds, and not unfrequently add buds, berries, and larger insects to their fare, and like mammalious animals are provided with a muscular bag or crop in which the food undergoes a preparatory digestion, and for this purpose they also swallow gravel, &c. They are chiefly polygamous ; the females alone rearing and educating the young. The nest is made on the ground, and without art, and they are very prolific, the eggs being numerous, and the breeding long continued ; the

young run about and feed as soon as hatched, under the direction and at the call of the parent, who retains them under her charge until autumn. They run swiftly, take to wing with difficulty, the flight being limited and low, accompanied by a whirring produced by the rapid vibration of the wings; very few undertake any extensive migrations. The voice unpleasant, consisting usually of a crowing, or petulant cackling. The flesh is greatly esteemed for food in all countries; the domestic kinds are termed poultry; when wild, game.

Family. — GALLINACEI. (*Illig.*)

The bill thick; nostrils basal. Fore toes connected at base by a membrane. With the hind toe and nail never wanting.

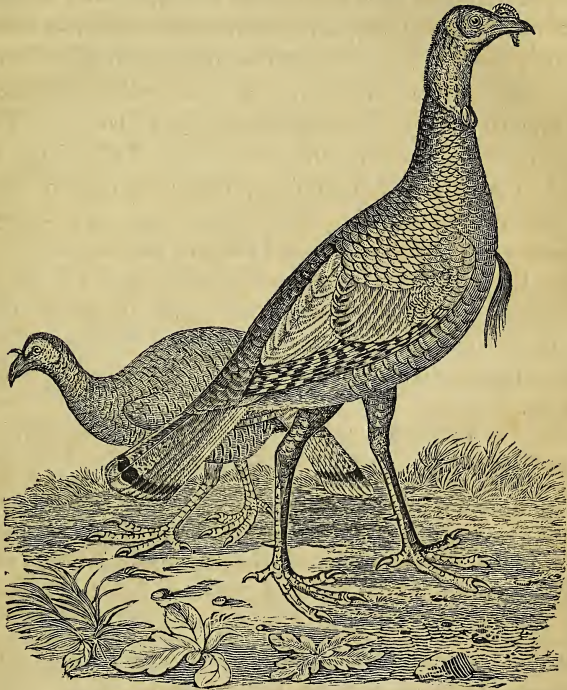
TURKEYS. (*MELEAGRIS, Lin.*)

With the BILL entire, and at base covered by a membrane which is prolonged into a pendulous, fleshy, conic, erectile, hairy caruncle. NOSTRILS oblique. The TONGUE fleshy and entire. FEET rather long; the *tarsus* naked, provided with a blunt spur in the male; the middle toe longest; *nails* wide and blunt, flat beneath. *Wings* short, the 1st primary smallest, 4th and 5th longest. *Tail* of 14 to 18 dilated feathers, and capable of a vertical expansion.

The head small, naked, and warty, as well as half the neck; the throat provided with a longitudinal, carunculous appendage; and a pendulous bristly tuft on the lower portion of the neck, at length, common to both sexes. The feathers long, and dilated at the extremity, the colors metallic and brilliantly iridescent, varying by reflection. The *female* considerably smaller, with dull and obscure plumage; the *young* at first similar to the female.

The Turkey, though gregarious, is nearly sedentary in the districts where it is bred. They dwell generally in forests, roosting on trees; and utter a *gobbling* noise at the dawn of day. They feed on grain and mast, as well as other vegetable substances. They are very pugnacious in the breeding-season, and address their mates in pompous attitudes, strutting and wheeling, &c. They are also easily domesticated and betrayed, and are now naturalized over all the

temperate parts of the world ; their flesh being generally esteemed before all other poultry. The genus is peculiar to North America, consisting of but two species ; the second (*M. oculatus*) existing in the tropical forests of Honduras. They are somewhat allied to the Peacock, the *Menura*, and the Bustard of the ancient continent, though very distinct from every other type.



WILD TURKEY.

(*Meleagris gallopavo*, L. BONAP. Am. Orn. i. p. 79. pl. 9. both sexes.)

SP. CHARACT.— Primaries dusky, banded with white ; tail of 18 feathers, ferruginous, thinly waved with black, and with a black band near the extremity.— The *male*, blackish, with a metallic coppery reflection. The *female* and *young*, dusky brownish-grey, with but few metallic tints.

THE Wild Turkey, once prevalent throughout the whole continent of North America, from Mexico and the Antilles, to the forests of Lower Canada, is now by the progress and density of population chiefly confined to the thickly wooded and uncultivated tracts of the Western States, being particularly abundant in the unsettled parts of Ohio, Kentucky, Illinois, Indiana, and throughout the vast forests of the great valleys of the Mississippi and Missouri. On the banks of the latter river, however, where the woods disappear beyond the confluence of the Platte, the Turkey no longer appears, and the feathers of the wings, for the purpose of pluming arrows, form an article of small commerce between the other natives and their western countrymen. For a thousand miles up the Arkansas and Red River, in the wooded alluvial lands, they are not uncommon. They are likewise met with in small numbers, in Tennessee, Alabama, and West Florida. From the Atlantic States generally they are now nearly exterminated.

The Wild Turkey is neither gregarious nor migratory, but from the necessity of wandering after food ; it is otherwise resident throughout the whole of the vast region it inhabits, including the greatest diversity of climate ; and it is prolific in proportion to its natural resources, so that while in the United States and Canada it only breeds once in the year, in Jamaica and the other West India islands, it is said to raise two or three broods in the same period. In quest of mast, they therefore spread themselves through the country, and insensibly assemble in considerable numbers to the district where their food abounds. These movements are observed to take place early in October, (the Turkey moon of the aborigines.) The males, or *gobblers*, as they are often called, from their note, are now seen apart from the other sex, in com-

panies varying from 10 to a 100. The females move singly, or accompanied by their almost independent brood, who all at first shun assiduously the persecuting society of the selfish male. Yet after a while, when their food proves abundant, separate mixed flocks of all ages and sexes often promiscuously join in the bounteous repast. Their migration, very unlike that of the rapid Pigeons, is made almost entirely on foot, until their progress is perhaps arrested by a river. Their speed, however, is very considerable, and when surprised they more commonly trust to their legs than their wings, running nearly with the velocity of a hound. On meeting with an impediment of this kind, after considerable delay, they ascend to the tops of the tall trees, and at the cluck of the leader, they launch into the air for the opposite shore. The transit is a matter of little difficulty, though considerable labor, for the older birds; but the younger and less robust sometimes fall short of the bank, and are either drowned or attain the land by swimming. After crossing, it is remarked, that they often become an easy prey to the hunter, as they seem bewildered by the new country in which they have arrived, or more probably are fatigued by the novelty and extent of their excursion. After long journeys and privations, particularly in frosty weather, or while the ground is covered with snow, they are sometimes reduced to the necessity of making their appearance near farm-houses, where they now and then even associate with the poultry, and enter the stables and cribs after grain. In this desultory and foraging manner they spend the autumn and winter.

According to the latitude, and the advancement of the season; though always very early in the spring, they begin to be actuated by the instinct of propagation. The males commence their gobbling, and court the society of

their retiring mates. The sexes roost apart, but in the same vicinity, and at the yelp of the female the gobbling becomes reiterated, and extravagant. If heard from the ground, a general rush ensues to the spot, and whether the hen appears or not, the males, thus accidentally brought together, spread out their train, quiver and depress their rigid wings, and strutting and puffing with a pompous gait, often make battle, and directing their blows at the head occasionally destroy each other in a fit of jealousy. As with our domestic fowls, several hens usually follow a favorite cock, roosting in his immediate neighbourhood, until they begin to lay, when they withdraw from his resort, to save their eggs, which he would destroy if discovered. The females are therefore seen in his company only for a few hours in the day. Soon after this period, however, the male loses his ardor, and the advances of affection now become reversed, the hen seeking out the society of her reluctant mate. In moonlight nights the gobbling of the male is heard, at intervals of a few minutes, for hours together, and affords often a gratifying means of their discovery to the wakeful hunter. After this period the males become lean and emaciated, so as to be even unable to fly, and seek to hide themselves from their mates in the closest thickets, where they are seldom seen. They now also probably undergo their moult, and are so dry, lean, and lousy, until the ripening of the mast and berries, as to be almost wholly indigestible and destitute of nutriment as food. So constant is this impoverished state, that the Indians have a proverb, "As lean as a Turkey in summer."

About the middle of April, in Kentucky, the hens begin to provide for the reception of their eggs, and secure their prospects of incubation. The nest, merely a slight hollow scratched in the ground, and lined with withered

leaves, is made by the side of a fallen log, or beneath the shelter of a thicket, in a dry place. The eggs, from 10 to 15, are whitish, covered with red dots. While laying, the female, like the domestic bird, always approaches the nest with great caution, varying the course at almost every visit, and often concealing her eggs entirely by covering them with leaves. Trusting to the similarity of her homely garb with the withered foliage around her, the hen, as with several other birds, on being carefully approached, sits close, without moving. She seldom indeed abandons her nest, and her attachment increases with the growing life of her charge. The domestic bird, has been known, not unfrequently, to sit steadfastly on her eggs, until she died of hunger. As soon as the young have emerged from the shell, and begun to run about, the parent, by her cluck, calls them around her, and watches with redoubled suspicion the approach of their enemies, which she can perceive at an almost inconceivable distance. To avoid moisture, which might prove fatal to them, they now keep on the higher sheltered knolls; and in about a fortnight, instead of roosting on the ground, they begin to fly, at night, to some wide and low branch, where they still continue to nestle under the extended wings of their protecting parent. At length they resort during the day to more open tracts, or prairies, in quest of berries of various kinds, as well as grasshoppers, and other insects. The old birds are very partial to pecan-nuts, winter grapes, and other kinds of fruits. They also eat buds, herbs, grain, and large insects; but their most general and important fare is acorns, after which they make extensive migrations. By the month of August the young are nearly independent of their parent, and become enabled to attain a safe roost in the higher branches of the trees. The young cocks, now show the

tuft of hair upon the breast, and begin to strut and gobble, and the young hens already pur and leap.

One of the most crafty enemies which the Wild Turkey has to encounter is the Lynx or Wild Cat, who frequently seizes his prey by advancing round, and waiting its approach in ambush. Like most other Gallinaceous birds they are fond of wallowing on the ground and dusting themselves.

When approached by moonlight, they are readily shot from their roosting-tree, one after another, without any apprehension of their danger, though they would dodge or fly instantly at the sight of the Owl. The gobblers, during the season of their amorous excitement, have been known even to strut over their dead companions while on the ground, instead of seeking their own safety by flight.

In the spring, the male Turkeys, are called by a whistle made of the second joint bone of the wing of the bird, which produces a sound somewhat similar to the voice of the female; and on coming up to this call they are consequently shot. They are likewise commonly caught in quadrangular pens made of logs crossing each other, from which is cut a slanting covered passage sufficient to allow the entrance of the Turkey. Corn is then scattered in a train to this cage for some distance, as well as within; and the neighbouring birds, in the surrounding woods, having discovered the grain, call on each other by a clucking, and entering one at a time, they become secured in the pen, as, for the purpose of escape, they constantly direct their view upwards, instead of stooping to go out by the path by which they had entered.

The male Wild Turkey weighs commonly from 15 to 18 pounds, is not unfrequently as much as 25, and sometimes, according to Audubon, even 36. The hen com-

monly weighs about 9 pounds ; and the usual price for a Turkey from the Indians is 25 cents ! The domestic bird, when irritated by the sight of any remarkable object, struts out with expanded tail, and drooping his stiffened wings, swells out his wattles which become red and turgid, and, advancing with a grave and haughty air, utters a humming sound, now and then accompanied by a harsh and dissonant *ruk, orook, orook*, repeating it at every whistle or unusual sound that strikes his ear. The exhibition of a red rag is also sure to excite his wrath, and induce him to rush with stupid temerity at the disagreeable object, which he exerts himself to injure or destroy. A whole flock sometimes will unite in chasing a common cock from the poultry yard, in consequence merely of some whimsical antipathy. From these singular dislikes, this cowardice and folly, the Turkey bears in France the same proverbial imputation of stupidity, which in England is bestowed on the Goose. The feathers of the wild bird attached to strips of bass, were anciently employed by the aborigines, for tippets and cloaks, and were so arranged that the brilliant surface formed the outside of the dress ; and in later times, similar dresses have also been made by the Cherokees.

The Turkey was first sent from Mexico to Spain in the 16th century, and in the reign of Henry the Eighth, in the year 1524, it was introduced into England, and soon after into France and other portions of Europe.

The male Turkey is about 4 feet 1 inch in length ; the alar extent 5 feet 8 inches. (The female 3 feet 1 inch in length.) Legs and feet purplish red. Iris hazel. Upper part of the back and wings yellowish-brown, of a metallic lustre, changing to deep purple, the retuse tips of the feathers broadly edged with velvet black. Quills dusky, banded with greyish-white. Lower part of the back and tail-coverts deep chesnut, banded with green and black. Tail feathers, of the same color undulatingly barred and minutely sprinkled with black, and with a broad subterminal blackish band. Beneath duller.

PARTRIDGES. (PERDIX. *Lath.*)

In these birds the BILL is entire and bare; the upper mandible vaulted, and strongly curved towards the point. NOSTRILS basal, lateral, half closed by a vaulted and naked membrane. FEET naked, fore toes united by a membrane to the first articulation, hind toe less than half the length of the inner; nails incurved, acute. Head wholly feathered, often with a naked space round the eye. Tail short, rounded, and deflected, consisting of from 12 to 18 close feathers.

Female scarcely smaller, and differing from the male only by some small essential marks. Young after the first year similar with the adult. The moult annual.

These birds sedentary in some countries, migrate in others, and are very numerous in temperate and warm climates, in every quarter of the world. They live in pairs, and form a conjugal union for life; when the young are hatched, the male takes them under his charge, and by his cries warns them of any approaching danger, or calls them together when scattered apart; in this manner they dwell together as one family until the approach of spring. The *Quails* of the 4th section of the genus, are polygamous, and migrate extensively. Most part of the whole genus live in open fields and meadows, seeking out the advantage of cultivated districts, in the vicinity of man.

Subgenus. — COLINIA. (COLINS, *Buff.* ORTYX. *Steph.*)

The bill short, thick, higher than it is wide; upper mandible curved from the base; no naked space around the eye. The tarsus destitute of spur or tubercle in both sexes. The wings rounded; with the 3d and 4th primaries longest. Tail of 12 feathers, longer than the coverts.

These birds alight on low trees or bushes, sometimes roosting in them, but also dwell much on the ground, both by night and day. Usually monogamous, the male taking charge of and protecting the young, which associate with the old until the time of pairing. — These are peculiar to America, where the other subgenera have no representatives.



AMERICAN PARTRIDGE, OR QUAIL.

+ (*Perdix virginiana*, LATH. WILSON, vi. p. 21. pl. 47. fig. 2. [male].
P. marilanda, LATH. Ind. Orn. ii. p. 651. [male.] *P. mexicana*,
 IBID. p. 653. [young.] *La Caille de la Louisiane*, BRISSON, i. p.
 258. pl. 22. fig. 2. BUFFON, Ornith. pl. enlum. pl. 149. *Colenicui*,
 ii. p. 485. *Colenicuiltic*, FERNANDEZ, Hist. Nov. Hispan. p. 19.
 cap. 25. *Coturnicis simulacrum*, JOHNSTON, WILLUGHBY, and
 RAY.

SP. CHARACT. — Without a crest; plumage cinnamon brown, varied with black and whitish; throat white, bounded with a black crescent; bill black; the feet ash-colored. — *Female*, with the stripe over the eye and throat, pale yellowish-brown. *Young*, for a while, without the black on the throat.

THE Quail of America, exceedingly prolific, has extended its colonies from the inclement coasts of New England to the mild latitudes of Mexico and Honduras. In Jamaica, where it has long been introduced and naturalized, the inhabitants distinguish it as the *Partridge*, an appellation sufficiently prevalent in various parts of the United States. At the north, the species is rarely seen to the extremity of New Hampshire; and this limit, no

doubt is determined by the length and severity of the winters which prevail in this rigorous climate. They seldom migrate, except to short distances, in quest of food, and, consequently, often perish beneath deep drifts of snow, so that their existence is rendered impossible in the arctic winters of our high latitudes. Indeed, sometimes they have been so thinned in this part of the country, that sportsmen, acquainted with their local attachments, have been known to introduce them into places for breeding, and to prevent their threatened extermination. So sedentary are the habits of this interesting bird, that until the flock is wholly routed by the unfeeling hunter, they continue faithfully attached to the neighbourhood of the spot where they have been raised and supported.

Johnston, Willughby, and Ray distinguished the Mexican bird by the quaint title of the *Quail's Image*. The first settlers in New England also thought they saw in this familiar bird the Quail of the country they had relinquished. The two birds, are, however, too different to require any critical comparison. Ours is even justly considered by European ornithologists as the type of a peculiar American subgenus, to which has been given the name of *ORTYX* by Stevens, the original appellation of the Quail or *Perdix coturnix*, as known to the ancient Greeks. The name of *COLIN*, contracted by Buffon from the barbarous appellation of some Mexican species, and adopted by Cuvier, Temminck, and Vieillot is, however, to be preferred, as free from the implied contradiction of the Greek name.

Although there is some general resemblance between the Quail of the old and the new continent in their external appearance, their habits and instincts are exceedingly different. The true Quail is a noted bird of pas-

sage, with a favorable wind leaving Europe for the warmer parts of Asia at the approach of winter ; and with an auspicious gale again returning in the spring, in such amazing numbers that some of the islands of the Archipelago derived their name from their abundant visits. On the west coast of Naples, within the small space of four or five miles, as many as 100,000 have been taken in a day by nets. Our Partridge, though occupying so wide an extent of the Atlantic and Western States, and even penetrating into Mexico, is scarcely ever a bird of passage ; they only assemble in single families, which may sometimes be reduced to four or five by accidents, and at others increased to twenty or thirty. Their instinctive sociability continues uniformly, until interrupted in the spring by the desire of pairing ; at this season, the eager call of the male is often heard, but it nearly ceases when he is mated, and is only long continued by those who are dissatisfied, and have been unsuccessful in their connexions ; and by imitating the reply of the female, the male is easily decoyed to approach towards the enemy who thus allures him. On these occasions when the rival candidates happen to meet, they exhibit, the only time in their lives, a quarrelsome disposition, fighting with obstinacy, until the contented victor at last gains the field with his submissive mate. The conjugal selection being now concluded, they are not exceeded by any of the feathered race in their mutual attachment and common affection for their brood. In the vagrant Quail, the want of reciprocal and durable attachment gives rise to a wholly different character in instinctive morality ; a common concubinage prevailing among them, as with our Cow Troopials. Instead of the mild sociability so prevalent with our Partridge, they are pugnacious to a proverb ; "*As quarrelsome as Quails in a cage*" was an ancient reproof to

striving children. Their selfishness forbids all mutual alliance, and they only find safety from each other in roaming solitude.

The Partridge is not partial to the depths of the forest, though they sometimes seek the shelter of trees and perch on the low branches, or hide amongst the brush and underwood. Their favorite food, however, commonly conducts them to the open fields, where they glean up various kinds of grain, and are particularly fond of rye and buckwheat, as well as Indian corn; and, when not too much disturbed by the sportsman, will often, particularly in the autumn and winter, fearlessly assemble along the most public roads, or around the barn and stable, in search of a scanty pittance among the domestic fowls; like them also very industriously scratching up straw, and probably the ground, in quest of grain and insects; which, with seeds,* and various kinds of buds and berries, as well as broken acorns, according to the season, often constitute a considerable part of their native diet.

Remaining with us commonly the whole year, the little social band often suffer from the inclemency of the seasons. At this time, they perch together on some rising ground, beneath the shelter of brush or briars, and forming a close circle, with their heads outward to discern any approach of danger, they thus greatly aid each other by their mutual warmth to resist the chilling effects of frost. It is probable, however, they have no great fear of snow, when together, as they may often be seen patiently encountering the storm, as its white wreaths invade them, and frequently on the arrival of a thaw, unfortunate coveys, suspecting no danger, are found buried beneath the inundating waste, huddled together

* Among others, the oily seeds of the common Bitter-weed or *Ambrosia bipinnatifida*, according to the information of Mr. Oakes.

in their accustomed form. They are observed, even, on the approach of danger, to rush into the snow for shelter, and it is only when the drift becomes so consolidated by a frozen glazing of sleet as to resist all their efforts to move, that it proves their grave, rather than their retreat.

As they happen to afford a favorite and delicate article of food, every means which gun and trap can effect are put in operation against the innocent race. Their very sociability often affords means for their destruction ; for while crowded together in a ring, a dozen or more have been killed at a shot, and the small remains of the unfortunate covey, feeling their weakness and solitude, are said to join some neighbouring brood, for whom they soon form the same friendly attachment they had for the fraternity they have lost.

From the latter end of August to the month of March, the markets of all our principal cities are often cheaply stocked with this favorite game.*

Some time in the month of May, the Quail, at the bottom of a sheltering tuft of grass, scratches out a cavity for her nest, which is usually lined substantially with such withered leaves and dry grass as happen to be convenient. Though generally open, it is sometimes partially covered by art and accident, but no studious concealment is ever practised by this artless bird. The eggs are from 15 to 20 ; and unlike the spotted charge of the true Quail, are pure white, and rather suddenly narrowed at the smaller end. The period of incubation is about four weeks. They have generally two broods in a season, as young birds scarcely fledged may be observed here as late as the beginning of October. When this happens, it is not uncommon to find both coveys still associating

* The usual price in the markets of Boston and New York is from 10 to 15 cents a pair.

with their parents. Like most other Gallinaceous birds, the young run about as soon as they are freed from the shell, and gain the complete use of their wings in about a fortnight from hatching. They are now attentively conducted by the mother, and occasionally by either parent, in quest of their appropriate food, and called together in a voice resembling the low twittering of chickens. At times they shelter beneath the wings of the mother; but if the little busy flock are startled by danger, artifice, rather than courage, is the instinctive means of safety employed by all the party. The parents flutter in the path, in real as well as simulated distress, and the young, instantly aware of their critical situation, make no useless attempts to fly, but vanish singly, and closely hiding among the withered grass, which they almost resemble in color, are thus fortunately rendered nearly altogether invisible. The alarm at length dissipated, the tender, cautious call of the parents, again reassembles the little grateful family.

The eggs of the quail have been often hatched by the domestic hen; but the vagrant disposition of the diminutive brood, the difficulty of procuring their proper food, and the superior attention they require over chickens, prevent the possibility of their domestication; and even when they have survived the winter in this state, the return of spring leads them to wander off in compliance with that powerful instinct, which inspires them to a mutual separation.

So familiar are these little birds, that occasionally, as described by Wilson, they have been known to lay their eggs in the nest of the domestic hen, when situated at any considerable distance from the habitation. From two eggs thus deposited were raised a pair of young Quails, which, when abandoned by the hen, showed their social attachment by accompanying the cows. These

they followed night and morning from the pasture, and when the cattle were housed for the winter our little Partridges took up their humble abode in the stable. But even these, so docile, and separated from all their race, on the return of spring, obeyed the instinct of nature, and wandered away to their congenial woods and thickets. It is probable at times, as asserted by observers, that our Quails, like some other birds, lay their eggs in the nests of each other ; a fact which would only be in accordance with their usual friendship and mutual familiarity.

The American Quail, according to Wilson, has likewise, in turn, been employed to hatch the eggs of the domestic hen, which she brought out, defended, and fed as her own offspring. She even succeeded in imparting to them a portion of her own instinct, to such a degree, that when alarmed, they hid in the grass, and ran timidly from sight like so many young Partridges, exhibiting all the wildness of unreclaimed birds. A flock of these Quails, however attentively fed, and confined, always exhibit a great degree of fear and shyness ; their attachments remaining truly natural, they appear only to recognise the company of each other. But a solitary individual becomes friendly and familiar to the hand that feeds it, and, for want of more congenial society, forms a similar attachment to its keeper. In the month of September, the little brood, now nearly full grown, assemble in families ; and at this period, as well as in the spring and early part of summer, the clear, whistling call of the male is often heard. This well known note, is very similar to the pronunciation of the words, "*'bob white,*" to which is often added a suppressed introductory whistle. While seated, perhaps on a fence-rail, or the low limb of an orchard tree, this peculiar note, sometimes interpreted

in showery hay-weather into the augury of "*more wet, more wet,*" continues uninterruptedly, at short intervals, for more than half an hour at a time. Du Pratz says they are known to the aborigines by the name of *ho-ouy* ('*ho-wee*'), which is also imitative of notes they sometimes utter, as I have heard, early in a morning, from a partly domesticated covey. When assembled in a corner, and about to take wing, the same low, chicken-like twittering, as is employed by the mother towards her more tender brood, is repeated; but when dispersed, by necessary occupation, or alarm, they are reassembled by a loud and oft repeated call of anxious and social inquiry. This note, '*ho-wee*', is however so strongly instinctive, as to be commonly uttered without occasion, by the male even in a cage, surrounded by his kindred brood; so that this expression, at stated times, is only one of general sympathy and satisfaction like that of a singing bird uttered when solitary and confined to a cage.

In consequence of the shortness and concavity of its wings, in common with most other birds of the same family, the American Quail usually makes a loud whirring noise in its flight, which is seldom long continued, always laborious, and generally so steady as to afford no difficult mark for the expert sportsman. According to the observations of Audubon, the flight of our Partridge and Grouse, when not hurried by alarm, is attended with very little more noise than that of other birds. Whatever may be the fact, when our little Partridges alight on the ground, they often run out to very considerable distances, when not directly flushed, and endeavour to gain the shelter of briars and low bushes, or instinctively squat among the fallen leaves of the woods, from which, with their brown livery, it is difficult to distinguish them. No great destruction is made among them while on the wing,

as they do not take a general alarm on being approached, but rise at intervals only by two or three at a time.

The American Quail is about 9 inches long, and 14 in alar extent. Line over the eye descending down the side of the neck, with the chin and throat pure white, the latter (in the full grown bird) bounded by a descending crescent of black. Crown, neck, and upper part of the breast reddish-brown. The sides of the neck nearly below the crescent, are spotted with white and black on a rufous ground. Back, shoulders, and lesser wing-coverts, cinnamon brown mingled with ash-color, and minutely pointed with black. Wings dusky, the coverts edged with yellowish-white. Lower part of the breast and belly white, faintly tinged with yellow, and each feather elegantly variegated with a wide arrow-head of black. Tail ash-colored, minutely spotted with reddish-brown. Bill black. Iris hazel. Legs and feet pale ash-color inclining to leaden blue. — By Buffon and others, the bill of the full grown young, as the Mexican or Louisiana Quail, is, by mistake, colored red. Mauduyt, however, in the *Encyclopédie Méthodique* (Ornithol.) i. pp. 599, 600, says expressly, we frequently receive this bird among collections made in Louisiana, but in all that we have seen the bill is *not red*, but dark brown.

CALIFORNIAN QUAIL.

(*Perdix californica*, LATH. Synops. Suppl. ii. p. 281. No. 7. *Tetrao californicus*, Nat. Miscel. tab. 345.)

SP. CHARACT. — Crested; cinereous brown, varied with yellowish; the throat black, bounded with yellowish-white. — The *female* lighter, destitute of black.

THIS curious species, discovered by Menzies, is said to be chiefly, if not wholly confined to the west side of the northern Andes, and is common throughout the province of California, and the territory of the Oregon. Little or nothing is known of the manners of this remote bird. A covey, however, have been recently introduced alive to the Zoölogical Gardens. Among these, the pugnacious character of the males was nearly as conspicuous as in the Grouse.

This species is a little larger than the Common Quail of Europe. Crest of 6 dusky feathers; front dull ferruginous. Region round the eyes, chin, and throat, dusky black; behind the eye a dull yellowish-white streak; a crescent of the same color bounds the black of the throat; belly inclining to ferruginous yellowish with slender crescents of black. Axillary feathers dusky, with a longitudinal yellowish streak. Tail rather long, and partly cuneiform. Legs and bill lead-color.

GROUS. (TETRAO, *Lin.*)

With the BILL short, entire, and naked at the base; upper mandible vaulted, and curved from its origin. NOSTRILS basal, half closed by an arched membrane, and hidden by the advancing feathers of the front. TONGUE short, fleshy, and acuminate. EYE-BROWS naked, scattered with red papillæ. FEET moderate; tarsus feathered, and spurless in both sexes; 3 toes before, united to the 1st articulation; one toe behind half as long as the inner, the whole usually furnished with dentellated borders. Wings short, rounded; the 1st primary short, and the 2d not so long as the 3d and 4th which are longest. Tail of 18 or 16 feathers.

The female of the larger species, very different in plumage from the male; in the smaller kinds the sexes differ little in appearance. Young of the year, and in their 2d moult, similar to the female. The general moult twice in the year, some (in inclement climates) changing greatly with the season.

These birds inhabit large forests, particularly in mountainous countries, although some are equally addicted to plains. The Ptarmigans, associated in numerous flocks, are confined to the glacial regions of the north, or inhabit towards the summits of the high mountains in the centre of Europe. The Grouse live in families, are polygamous, abandoning the female to the charge of the progeny, and then living in solitude. The eggs are from 8 to 14. In their manners they are shy, wild, and incapable of permanent domestication. Their food consists almost wholly of berries, buds, and leaves, to which seeds are only an accessory, in extreme want. Their voice is sonorous, and they have particular cries at the period of reproduction. Their flesh, as game, is considered superior to all others. They are confined to the cold and temperate climates of the northern hemisphere, and the arctic species alone are common to both continents.

Subgenus. — BONASIA. (*Bonap.*)

Lower portion of the tarsus, and toes naked. Tail long and rounded. The head adorned with a crest and ruff. The female nearly similar to the male; and the plumage almost alike throughout the year. The flesh white. These live chiefly in thick forests and affect the hills and uplands.

RUFFED GROUS.

† (*Tetrao umbellus*, L. WILSON, vi. p. 45. pl. 49. [male.])

SP. CHARACT. — Mottled; tail grey or ferruginous, of 18 feathers, speckled and barred with black, and with a black subterminal band. — *Male* with a ruff of broad black feathers on the sides of the neck. — In the *female* the ruff smaller, dusky-brown.

THIS beautiful species of Grouse, known by the name of *Pheasant* in the Middle and Western States, and by that of *Partridge* in New England, is found to inhabit the continent from Hudson's Bay to Georgia, but are most abundant in the Northern and Middle States, where they often prefer the most elevated and wooded districts; and at the south they affect the mountainous ranges and valleys which border upon, or lie within, the chains of the Alleghanies. They are also prevalent in the Western States as far as the line of the territory of Mississippi, but appear to be unknown to the west of that great river, where the Pinnated Grouse is so abundant.

Although, properly speaking, sedentary, yet at the approach of autumn, according to Audubon, they make, in common with the following species, partial migrations by single families in quest of a supply of food, and sometimes even cross the Ohio in the course of their peregrinations. In the northern parts of New England they appear also to be partially migratory at the approach of winter, and leave the hills for lower and more sheltered situations.

So prompt, indeed, at times are their movements, that in the present season (November, 1831), in travelling nearly to the extremity of New Hampshire, not a single bird of the species was now to be seen, as they had, no doubt, migrated southward with the first threatening and untimely snow which had fallen, being indeed, so unusually abundant, previously to that period, as to sell in the market of Boston as low as $12\frac{1}{2}$ cents apiece. Although elevated countries and rocky situations thickly overgrown with bushes and dense evergreens, by rivers and brooks, are their chosen situations, yet at times they frequent the low lands and more open pine forests in the vicinity of our northern towns and cities, and are even occasionally content to seek a retreat, far from their favorite hills, in the depth of a Kentucky cane-brake. They are somewhat abundant in the shrubby oak barrens of Kentucky and Tennessee in which their food abounds. This consists commonly in the spring and fall, of the buds of trees, the catkins of the hazel and alder, even fern buds, acorns, and seeds of various kinds, among which I have met with the capsules, including the seeds, of the common small Canadian Cistus (*Helianthemum*). At times, I have seen the crop almost entirely filled with the buds of the Apple tree, each connected with a portion of the twig, the wood of which appears to remain a good while undigested; cinquefoil and strawberry leaves, buds of the Azaleas and of the broad-leaved Kalmia, with the favorite Partridge berries (*Gaultheria procumbens*), ivy berries (*Cissus hederacea*), and gravel pebbles, are also some of the many articles which form the winter fare of our bird. In summer, they seem often to prefer berries of various kinds, particularly dew-berries, strawberries, grapes, and whortleberries.

In the month of April, the Ruffed Grouse begins to be recognised by his peculiar *drumming*, heard soon after dawn, and towards the close of evening. At length, as the season of pairing approaches, it is heard louder and more frequent till a later hour of the day, and commences again towards the close of the afternoon. This sonorous crepitating sound, strongly resembling a low peal of distant thunder, is produced by the male, who, as a preliminary to the operation, stands upright on a prostrate log, parading with erected tail and ruff, and with drooping wings in the manner of the Turkey. After swelling out his feathers, and strutting forth for a few moments, at a sudden impulse, like the motions of a crowing Cock, he draws down his elevated plumes, and stretching himself forward, loudly beats his sides with his wings, with such an accelerating motion, after the first few strokes, as to cause the tremor described, which may be heard reverberating, in a still morning, to the distance of from a quarter to that of half a mile. This curious signal is repeated at intervals of about 6 or 8 minutes. The same sound is also heard in autumn as well as spring, and given by the caged bird as well as the free, being, at times, merely an instinctive expression of hilarity and vigor. To this parading ground, regularly resorted to by the male, for the season, if undisturbed, the female flies with alacrity; but, as with other species of the genus, no lasting individual attachment is formed, and they live in a state of limited concubinage. The drumming parade of the male is likewise often the signal for a quarrel; and when they happen to meet each other in the vicinity of their usual and stated walks, obstinate battles, like those of our domestic fowls for the sovereignty of the dung-hill, but too commonly succeed. When this sound, indeed, (according to Audubon,) is imitated by striking carefully upon an

inflated bladder with a stick, the jealous male, full of anger, rushes forth from his concealment, and falls an easy prey to the wily sportsman.

Some time in May, the female selects some thicket or the side of a fallen log, in a dense part of the woods, for the situation of her nest. This is formed merely of a handful of withered leaves, collected from the surrounding and similar surface of the ground. The eggs, 10 to 15, more or less, are of an uniform dull yellowish color. The young run about as soon as hatched, and in about a week or 10 days are able in some degree to make use of their wings. The mother now leads them out in search of their appropriate and delicate food, and broods them at night beneath her wings, like the common hen; she likewise defends them by every stratagem which affection can contrive. On the appearance of an enemy, she simulates lameness to impose on the unwelcome spectator; while the young themselves squat on the ground, by which they are secured, from their similarity to its surface.

During summer, these birds are fond of basking and dusting themselves, and for this purpose are now and then seen in the public roads. When flushed, and on the instant of rising from the ground, the bird usually utters a cackling note, quickly repeated about half a dozen times, and also before rising utters a very peculiar lisping whistle. Like the Ptarmigan, the Ruffed Grouse, when alarmed in winter, is frequently known to plunge into the soft snow, and burrow out at such a distance as frequently to elude the pursuit of the hunter. Besides other successful methods of destruction which await the devoted Grouse, snares and traps of various kinds are employed to arrest them. They are even smoked to death, in the same manner as the Wild Pigeons, in the western country, while sleeping harmlessly and unsuspectingly on

their leafy roosts. By this system of indiscriminate extirpation, they are now greatly thinned throughout the more populous parts of the Union; and sell in Philadelphia and New York from 75 cents to a dollar apiece. The common price of these birds, decidedly, as I think, with Audubon, superior in flavor to the Pinnated Grouse, is, in the market of Boston, from 40 to 50 cents the pair, showing how much more abundant the species is in the rocky regions of New England than in any other part of America. Deleterious effects have sometimes occurred from eating this game, supposed to arise from their feeding on the buds of the broad-leaved *Kalmia*; yet most persons eat them with safety at all seasons of the year, even when these kinds of buds have been found almost filling the stomach.

The length of this species is about 18 inches, alar extent 2 feet. Head, neck, and crest, black and pale chesnut in spots and bars. Lower part of the back and rump dusky, the feathers broadly terminated with chesnut and grey, mottled with dusky, a roundish paler spot towards the ends of the feathers. The black ruff presenting violet reflections; coverts of the wings more mottled and rufous, a number of the tertials, with conspicuous oblong whitish-brown spots on the outer webs only; primaries pale dusky, the inner webs brownish-white with darkish spots; 4th primary longest, long axillary feathers white with grey bars. Throat pale rufous, with dusky spots below the feathers with pale rufous and grey bars, and broad white tips; downy vent feathers appearing nearly white; the lower tail-coverts pale rufous with inverse arrow-heads of white. The flanks most distinctly barred. Feet and bill pale livid brown. Iris hazel. In many birds the tail is almost wholly grey; in others ferruginous, and the general plumage brighter brown. — In Audubon's bird, much brighter than they ever occur in New England; the axillary feathers are said to be light chesnut only.

Subgenus. — TETRAO.

Tarsus wholly feathered; toes naked. Not varying sensibly with the seasons. The flesh black. These inhabit temperate and almost mild regions, and dwell in plains and level as well as mountainous countries.

PINNATED GROUS.

+ (*Tetrao cupido*, L. WILSON, iii. p. 104. pl. 27. fig. 1. [male.] Phil. Museum, No. 4700, 4701.)

SP. CHARACT. — Partly crested, mottled; tail rather short, much rounded, formed of 18 nearly plain dusky feathers, tipped with whitish; primaries externally spotted with brownish white. — In the *male* the neck is furnished with wing-like appendages. — *Female* and young without the cervical tufts.

CHOOSING particular districts for residence, the *Grouse*, or *Prairie-Hen*, is consequently by far less common than the preceding species. Confined to dry, barren, and bushy tracts, of small extent, they are in several places now wholly or nearly exterminated. Along the Atlantic coast, they are still met with on the Grouse plains of New Jersey, on the brushy plains of Long Island, in similar shrubby barrens in Westford, Connecticut, in the island of Martha's Vinyard on the south side of Massachusetts Bay; and formerly, as probably in many other tracts, according to the information which I have received from Lieut. Governor Winthrop, they were so common on the ancient bushy site of the city of Boston, that laboring people or servants stipulated with their employers not to have the *Heath-Hen* brought to table oftener than a few times in the week! According to Wilson, they are also still met with among the scrub-oak and pine-hills of Pocono, in Northampton county, Pennsylvania. They are also rather common throughout the barrens of Kentucky, and on the prairies

of Indiana, and as far south as Nashville in Tennessee; but I believe, no where more abundant than in the plains of Missouri, whence they continue to the Rocky Mountains, and are even found in the remote region of Oregon. Dislike of moisture, as with the Turkey, but principally the nature of their food, appears to influence them in the choice of their resort. The small acorns of the dwarf oaks, and various kinds of wild fruits, as strawberries, whortle-berries, and partridge-berries, with occasional insects, abounding in these wooded thickets, appear to be the principal inducement to their residence; from which they rarely wander at any season, unless compelled by a failure of their usual food, and so become, notwithstanding the almost inaccessible nature of the ground, a sure prey to the greedy and exterminating hunter. In the Western States, where they appear as an abundant species, they are, at times, observed to traverse the plains and even cross extensive rivers in quest of the means of subsistence. In winter they likewise feed on buds as well as mast, sometimes swallowing leaves, and occasionally the buds of the pine. At times, if convenient, they have been known to visit the buck-wheat field, for their fare, or even devour the leaves of clover. In wintry storms they seek shelter by perching in the evergreens; but in spring and summer they often roost on the ground in company. They feed mostly in the morning and evening; and when they can stir abroad without material molestation, they often visit arable lands in the vicinity of their retreats. In the inclemency of winter, like the Quail, they approach the barn, basking and perching on the fences, occasionally venturing to mix with the poultry in their repast; and are then often taken in traps.

The season for pairing is early in the spring, in March or April. At this time the behaviour of the male be-

comes remarkable. Early in the morning he comes forth from his bushy roost, and struts about with a curving neck, raising his ruff, expanding his tail like a fan, and seeming to mimic the ostentation of the Turkey. He now seeks out or meets his rival, and several pairs at a time, as soon as they become visible through the dusky dawn, are seen preparing for combat. Previously to this rencontre, the male, swelling out his throat, utters what is called a *tooting*, a ventriloqual, humming call on the female, three times repeated, somewhat similar to the humming jar of the Night Hawk ; and, though uttered in so low a key, it may yet be heard 3 or 4 miles in a still morning. While engaged in fighting with each other, the males are heard to utter a rapid, petulant cackle, something in sound like excessive laughter. The tooting is heard from before day-break till 8 or 9 o'clock in the morning. As they frequently assemble at these *scratching-places*, as they are called, ambuscades of bushes are formed round them, and many are shot from these coverts.

The female carefully conceals her nest in some grassy tussuck on the ground, and is but seldom discovered. The eggs are from 10 to 12 ; and of a plain brownish color. The young are protected and attended by the female only, who broods them under her wings in the manner of the common fowl, and leads them to places suitable for their food, sometimes venturing with her tender charge to glean along the public paths. When thus surprised, the young dart into the neighbouring bushes, and there skulk for safety, while the wily parent beguiles the spectator with her artful pretences of lameness. The affectionate parent and her brood thus keep together throughout the whole season. By the aid of a dog they are easily hunted out, and are readily set, as they are not usually inclined to take wing. In the prairies, how-

ever, they not unfrequently rise to the low boughs of trees, and then, staring about without much alarm, they become an easy prey to the marksman.

The ordinary weight of a full grown bird is about three pounds, and they now sell, when they are to be had, in New York and Boston, from 3 to 5 dollars the pair. They have been raised under the Common Hen, but prove so vagrant as to hold out no prospect of domestication.

The Grouse, or *Heath-Hen*, as it was also formerly called by the first settlers, is about 19 inches long, and 27 in alar extent. The wing-like tufts on the sides of the neck, each consisting of 18 feathers, of unequal length, are black, streaked with brown. I have not been able to find the vesicular openings mentioned by Wilson, beneath these appendages. Over the eye a warty bare space of an orange-color. Chin cream-color. Above mottled transversely with black, pale rufous, and white. Tail short, much rounded, and plain dusky, brownish-white at the tip, with one web of the middle feather sometimes mottled with black and pale brown. Below pale brown and white. Feet dull yellow, the toes pectinated. Vent whitish. Iris reddish hazel. — The *female* considerably smaller, and without the neck wings and yellow space over the eye.

COCK OF THE PLAINS.

(*Tetrao urophasianus*, BONAP. Am. Orn. iii. pl. 21. fig. 1. [female.]
Leadbeater's Museum, London.)

SP. CHARACT. — Tail wedge-shaped, of 20 narrow, acuminate feathers. — *Male* very dark. — *Female* and *young* mottled.

THIS large and beautiful species of Grouse, little inferior to the Turkey in size, and the American counterpart of the Cock of the Woods, was first seen by Lewis and Clarke in the wild recesses within the central chains of the Rocky Mountains, from whence they extend in accumulating numbers to the plains of the Columbia, and are common throughout the Oregon Territory, as well

probably as the neighbouring province of California. The polygamous male, in the early part of the breeding season, is very pugnacious; and the whole with their young are at length seen in flocks foraging for their subsistence in the usual way. Its favorite food, according to its discoverers, is what they term the pulpy-leaved thorn; and as their mode of living is stated to be similar to that of the Grouse, there can be little doubt that they subsist also equally on buds and berries. When roused, it is heard to utter a cackling note, something similar to the cry of the common fowl. Its flesh is dark and less palatable than that of other species.

The female ? or young male of this species is 28 to 30 inches in length. Above blackish, minutely and closely dotted and mottled with brownish white, and here and there slightly tinged with pale yellowish rufous. Throat paler, a pure white space along the lower side of the neck, approaching the breast. Primaries plain dusky, except the outer web of the exterior feather, which is somewhat mottled; secondaries tipped with white; under wing-coverts and long axillary feathers silvery white. Wings 12 inches long. Breast greyish, mottled with black, and on each side below is a pure white space; a broad oblong patch of brownish-black occupies a space between the lower part of the breast and belly. The vent appears pale brownish-white, transversely mottled with dusky; the sides beneath the wings the same, but darker. Tail 10 inches, dusky, mottled with brownish-white; lateral feathers nearly spotless on their inner vanes, terminated with pale tips; 2 central feathers longest, the whole graduated into a general oval, the tail when open being rounded.

DUSKY GROUSE.

† (*Tetrao obscurus*, SAY, BONAP. Am. Orn. iii. pl. 18. [female.] Phil. Museum.)

Sp. CHARACT. — Tail somewhat rounded, of 20 broad blackish feathers, with a wide terminal greyish mottled band; anterior primaries spotless. — *Male* black. — *Female* and *young* dusky, somewhat mottled:

CONCERNING this fine species, almost representing the Black Grouse (*T. tetrix*) of Europe, we know as yet nothing more than that it was shot by Major Long's exploring party, on the 10th of July, 1820, in one of the romantic and wild bushy ravines of the Rocky Mountains, near to where the lofty chain divides the waters of the Atlantic and Pacific oceans. As it rose to fly, like other species it uttered a cackling note. Mr. Sabine's specimen of the male, mentioned by Bonaparte, was probably obtained in the interior of arctic America.

The female Dusky Grouse is 18 inches in length. (The male a little larger, and wholly black, or very dusky, with the tail-feathers of the same unvaried dark tint.) The general color of the female blackish brown, much lighter on the neck and beneath, having all the feathers barred and tipped with pale ochreous, inclining to brown; these lighter portions of most of the feathers are thickly mottled with black. Sides of the head and throat whitish, with dusky spots. The flanks varied with rufous. Abdominal region plain cinereous; 3d and 5th primaries nearly equal; primaries, secondaries, and outer wing-coverts, plain dusky; the secondaries have ochreous zig-zag marks on their outer webs, and are slightly tipped with dull whitish; the primaries also somewhat mottled with dingy white externally, but are wholly without the regular white spots, seen in other Grouse; under wing-coverts, and long axillary feathers, pure white. Tail $7\frac{1}{2}$ inches, the middle feathers only with rufous mottled bars, the whole terminated with a broad terminal band of cinereous, speckled minutely with blackish.

SPOTTED GROUS.

+ (*Tetrao canadensis*, LIN. BONAP. Am. Orn. iii. pl. 20. [male.] pl. 21. fig. 2. [female.] Phil. Museum.)

SP. CHARACT. — Tail moderate, rounded, of 16 broad black feathers; sides of the neck, breast, flanks, and tail-coverts spotted with white. — *Male* black, waved with grey; the throat and breast deep black. — *Female* much lighter mottled; throat and breast banded with black and rufous.

THIS dark species of Grouse inhabits the cold regions of Hudson's Bay throughout the whole year, where it frequents the bushy plains. To the south of this country, it appears to seek out the alpine elevations, being met with in the White Mountains of New Hampshire, and throughout a great portion of the northern Andes, towards the sources of the Missouri and Oregon. In winter it visits Canada, the interior of Maine, Michigan, sometimes the state of New York; and it even breeds around Halifax in Nova Scotia. In Canada it is known by the name of the Wood Partridge; by others it is called the Cedar or Spruce Partridge. Sometimes they are sent in a frozen state from Nova Scotia and New Brunswick to Boston.

The favorite resort of this species is in pine and spruce woods, and cedar swamps, which they frequent in the winter for the purpose of feeding on the buds, oily seeds, and evergreen foliage, to which they also add juniper berries. Their flesh, though palatable at all times, is considered best in summer, when they feed much on berries; as the buds of the resinous evergreens communicate an unpleasant flavor to the game. As usual, they nest on the ground with little art, in the slight shelter of fallen leaves and bushes, and are said by Pennant to lay but 5 eggs, which are varied with white, yellow, and black. They are readily approached, and sometimes so unsuspicious, as, like the Ptarmigan, to allow of being knocked down with a stick; and, round Hudson's Bay, are commonly caught by the aborigines in a simple noose fastened to a stake. When much disturbed, however, they betake themselves to trees, where they are readily approached and shot down.

The Spotted Grouse is only 15 inches in length, and weighs about 23 ounces. The general color is black and grey, mingled in trans-

verse wavy crescents. The ground color of all the feathers is black. Upper tail-coverts black-brown, mottled on their margins with greyish rusty, and broadly tipped with whitish-grey. Breast deep black, the feathers broadly terminated with white. Under tail-coverts deep black, pure white for half an inch at their tips. Under wing-coverts and axillary feathers brownish dusky, some of the largest having white shafts and terminal spots. Primaries dusky, and without white spots. Tail 6 inches long, almost entirely black, usually with a broad rufous tip, which is sometimes probably worn off, though feathers of this kind, with the rufous termination, have been found by Mr. Oaks, in summer, on the summit of the White Mountains. — The *female* is more than an inch shorter; and the general plumage is much more varied, with less black, and more of the ferruginous.

SHARP-TAILED GROUS.

(*Tetrao phasianellus*, LIN. BONAP. Am. Orn. iii. pl. 19. Phil. Museum.)

SP. CHARACT. — Mottled; tail short, cuneiform, of 18 narrow, square feathers, the middle ones much the longest, the outer white at the point. — *Female* similar to the male. Winter plumage, darker and more glossy.

THIS curious species of Grouse is also principally an inhabitant of the coldest habitable parts of the American continent, being found around Hudson's Bay in the larch thickets throughout the whole year. It is not uncommon in the forests of the Rocky Mountains, is also met with abundantly on the plains of Oregon, and Mr. Say saw it in the spring likewise in Missouri, but little beyond the settlements, at which season it also visits the vicinity of Fort William, on Lake Superior. It is, as usual, shy and solitary, living only in pairs throughout the summer, when they subsist much upon berries. In autumn and winter they are seen moving in families, and frequent the thickets of juniper and larch, on whose buds, as well as those of the birch, alder, and poplar, they now principally live. They usually keep on the ground, but if disturbed take to trees. When hard pressed by the

hunter, they sometimes seek safety by plunging into the snow, and, quickly burrowing beneath it, come out at a distance, and often from a situation the least expected, so that they frequently make good their retreat from their enemies.

The Sharp-Tailed Grouse makes its nest on the ground, near some bush, with loose grass and a few feathers; the eggs are from 9 to 13, white, with dusky spots. The young are hatched about the middle of June, and utter a puling note somewhat like chickens. Unsuccessful attempts have been made to domesticate them. The male has a shrill, rather feeble, crowing note; and both sexes, when disturbed, and on taking wing, repeat a reiterated cry of *kuk, kuk, kuk*, accompanied by a smart flirting of the tail-feathers, nearly similar to the opening and closing of a fan. In the breeding season the male struts about proudly, in the usual manner of the genus and order to which he belongs. The weight of this bird is about two pounds, and the flesh is light brown when cooked, and is much esteemed.

The length of the Sharp-Tailed Grouse is 16 inches, alar extent 23. The general color of the bird is a mixture of white, and different shades of ferruginous on a darkish ground. Breast and sides white, with arrow-shaped spots of dusky; the belly paler, vent almost wholly white, with a few very small dusky spots; 3d and 4th primaries longest, outer wing-coverts brown, each feather with a conspicuous terminal spot; axillary feathers white, with a small dusky spot on each. Quills plain dusky, with white spots at certain distances on their outer webs; secondaries spotted and tipped with white. Tail graduated, the middle feathers 5 inches long, the outer 2, all dark, varied with ferruginous of different shades and mottled with dusky, tapering from the base toward the point, where they suddenly dilate, and are emarginated at the extremity. The spring plumage is more bright than the autumnal, and likewise presents some differences in the spots and markings.

Subgenus. — LAGOPUS.

Tarsus and *toes* feathered. Tail of 18 feathers. They moult twice in the year, becoming white in winter, when they are gregarious. They are probably monogamous.

WHITE GROUS, OR PTARMIGAN.

(*Tetrao lagopus*, LIN. LATH. Ind. ii. p. 639. sp. 9. Ptarmigan and Rock Grouse, IDEM. Synops. iv. p. 741, et Suppl. i. p. 217. PENNANT, Auct. Zool. i. p. 364. No. 184.)

SP. CHARACTER. — Bill weak, compressed towards the point; nails subulate, black, and curved; the male constantly with a black band through the eyes. — *Female* without the dark acicular band, cicatrice over the eye smaller. — *Summer plumage*, above greyish-rufous marked with numerous zig-zag black lines, on the breast and flanks a great number of black feathers, waved with pale rufous; wings, all below the breast, and feet pure white. The *female* and *young* less white.

THE Ptarmigan is one among the very few animated beings, which, by choice and instinct, constantly resides in the coldest arctic deserts, and in the lofty mountains of central Europe, where, as the snow begins to melt away, it seeks out its frozen bed by ascending to the limits of eternal ice. Like so many other animals of this inclement boreal region, it is common to both the old and new continent. It is met with in Siberia, Kamtskatka, Greenland, most parts of northern Europe, the Highlands of Scotland, and even as far south as the romantic scenes of the lakes of Cumberland; a few being still seen* in the lofty hills which surround the vale of Keswick, as well as in Wales. In arctic America, they have been met with as far as it has ever been penetrated. They are also seen in great numbers in the northern parts of

* Latham in 1783.

Hudson's Bay, where they probably breed ; and in Nova Scotia, from their favorite fare, are known by the name of Birch Partridges. Occasionally, no doubt, they visit the hilly confines of the state of Maine.

They feed on many sorts of berries, particularly the crow-berry (*Empetrum nigrum*) and cow-berry (*Vaccinium Vitis Idæa*), as well as the tops of the same plant ; they also collect catkins, buds, and the young shoots of the pine, heath, rose-hips, and sometimes the different kinds of lichens, which they search out in the extensive burrows they make beneath the snow. To all this bill of frugal fare, the Ptarmigan also sometimes adds a few insects. They search out their food chiefly in the morning and evening, and in the middle of the day are observed sometimes to bask in the sun. Like the Esquimaux of the human family, whose lot is cast in the same cold and dreary region, they seek protection from the extreme severity of the climate by dwelling in the snow ; it is here that they commonly roost and work out subterraneous paths. In the morning as soon as they leave their frozen dens, they fly out vigorously into the air in an upward direction, shaking the snow from their warm and white clothing. While thus feeding they socially call on one another at intervals, in a loud tone, and sometimes utter a sort of cackling cry, almost like a coarse and mocking laugh.

The nest, about the middle of June, is made in open places where moss abounds, or in the shelter of the low, creeping bushes, forming the only woody growth of these naked and sterile regions. The eggs, 7 to 15, are oblong, of a rufous yellow, from the great number of large and small spots of black or of reddish black with which they are covered. From the lingering attachment of the male to his mate when killed, it is probable that the species may be monogamous, or even constantly mated. After the young

are fully grown, and released from the care of their parents, they and the old are seen to assemble in flocks of two or three hundred, about the beginning of October, when they appear to migrate a little to the south in quest of food, or rather from the mountains towards the plains. At this time they are seen in great numbers round Hudson's Bay, where they assemble for subsistence; and, as the store diminishes, they push their tardy migrations in other directions for a fresh supply. Unsuspicious of the wiles and appetites of man, the Ptarmigan appears often as tame as a domestic chicken, more particularly when the weather is mild; they are allured even by crumbs of bread, and on throwing a hat towards them, or any strange object, they are so attracted by the appearance, as to allow of an approach so near, that a noose may be thrown round their necks, or, approached from behind, they may be knocked down with poles. Sometimes, however, they become wild enough to fly, but soon grow weary, and as tame as usual. When about to fly off to a distance from the hunters, they are instantly brought to settle down by imitating the cry of their enemy the Hawk. At times, trusting to the concealment of their winter livery, they will remain motionless upon the snow, from which they are still distinguishable by their more dazzling whiteness.

They are much esteemed as food in every country where they occur, and are commonly taken in nets, which are merely made to fall over the place where they assemble, or to which they are driven; and so numerous are they at Hudson's Bay, that 50 or 70 are sometimes obtained at a single haul of a net about 20 feet square. Between November and April, as many as 10,000 are taken for the use of the settlement; and in Europe, during the winter, they are carried in thousands to the market of Bergen in Norway, and when half-roasted or jerked, are put into

barrels and transported to other countries as an article of commerce.

The weight of the Ptarmigan is about 24 ounces, the length 14 to 15 inches; of a pure white, with a band of black proceeding from the angle of the bill through the eyes. The lateral feathers of the tail black, terminated with a white border. Feet and toes thickly clad in woolly feathers. A red dentellated cicatrice over the eyes. Iris grey.

WILLOW GROUS, OR LARGE PTARMIGAN.

(*Tetrao saliceti*, TEMM. Man. d'Ornith. ii. p. 475. [Ed. alt.] *T. albus*, GMEL. LATH. Ind. ii. p. 639. White Partridge. PENNANT, ARC. Zool. i. p. 360. No. 183. Museum. Acad. Nat. Hist. Phil.)

SP. CHARACT. — The bill short, strong, blunt, and depressed towards the point; nails long and white, but little curved; no difference between the sexes in winter. — *Summer plumage* above reddish chesnut with waving black lines and spots, except on the fore part of the neck; beneath and wings pure white. — *Female* and *young* orange rufous, with larger black spots.

THIS larger species, called the Willow Grouse by Hearne, the Wood Grouse of the Norwegians, is another inhabitant of both continents, extending its residence to the eternal limits of the polar ice. In Europe, they are very rarely seen in the high mountains of central Europe. They are abundant in Lapland, Norway, Sweden, Greenland, Kamtskatka, and Iceland, always frequenting the forests in the elevated valleys, or the declivities of the highest mountains. They are seldom seen further south than Livonia and Esthonia; and very rarely as far as Prussia. In America they abound around Hudson's Bay, where they are said to breed along the coast, making their nests on dry ridges on the ground. In the ancient continent, they shelter their nests in the high tufts of the heath, and in the dwarf willows. Their eggs, 10 to 12, are longer than

those of the preceding species, of a muddy white, or inclining to pale rufous, covered and marbled with great numbers of spots, of the color of clotted blood.

It is somewhat remarkable that this species, still more boreal than the Common Ptarmigan in Europe and Asia, should constantly inhabit to the south of that species in North America, where it seems, as it were, to have usurped its residence. Their general habits are very similar to those of the preceding. Like them, they become gregarious at the setting in of winter, roaming after their food in flocks of as many as 200; living then, and at most seasons, on the tops, buds, and even seeds of the dwarf willow, and hence called *Willow Partridges*. They also subsist on most kinds of northern berries, and many other kinds of buds and leaves, with the tops of the heath, and the seeds of the birch. As food, this species is preferred to the smaller Ptarmigan.

The weight of this species is 24 ounces. The length $16\frac{1}{4}$ inches, alar extent 23. *Summer plumage*. — Head, neck, back, scapulars, middle tail-feathers and their coverts, of a rufous chesnut of different shades, without spots on the fore part of the neck, but with black zig-zag lines on the other parts, and black spots on the top of the back; inferior part of the breast, and all below, with the greater part of the wing-coverts, and the quills, white. Lateral tail-feathers black, tipped with whitish. Cicatrice over the eye scarlet. — In *winter*, with the exception of the lateral tail-feathers, they become wholly white; and for the purpose of giving additional warmth at this inclement season, the feathers, except the quills and tail, are doubled, a downy feather being added to the base of each; a provision common also to the preceding species.

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